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THE LONDON MEDICAL GAZETTE,

BEING A
WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

FRIDAY, SEPTEMBER 24, 1841.

ANALYSIS

OF

M. LUGOL'S CLINICAL LECTURES,

Delivered at the Hôpital St. Louis.

REPORTED BY

JAMES H. BENNET AND ERNEST GUIET,

House Surgeons to the above Hospital.

Scrofula, its various forms. Tubercular scrofula. Characters and structure of tubercles. Various seats of tubercle. Subcutaneous tubercles.

SCROFULA gives rise to a great number of diseases, and these diseases are so frequently met with, that their frequency alone would render scrofula an interesting subject of study to the medical observer, even had it not many other claims to his attention. Scrofula is, indeed, so common, so universal a malady, it so deeply modifies the entire organization, that we may look upon persons afflicted with it as a *variety* of the human race. Nor can we be surprised that this should be the case, when we consider that not only is scrofula transmitted from one generation to another, but that it frequently attacks the children of parents who themselves are not under its influence, when those parents, through ignorance or contempt of the laws of hygiene, or owing to their social position, fall into a peculiar state of health, which we will at a future period endeavour to describe.

Scrofula, although always the same malady, presents itself to our observation under various forms, which are determined by the nature of the tissue affected, and by the mode in which the morbid element manifests itself. In studying these varieties of scrofula, we must never lose sight, how-

ever, of their real identity. M. Lugol recognises five principal forms of scrofula—1, tubercular scrofula; 2, catarrhal scrofula; 3, cutaneous scrofula; 4, cellular scrofula; 5, osseous scrofula.

These various forms of scrofula are sometimes met with separately, but, generally speaking, they are combined in the same patient. It is thus that we see a child, who has for some time presented local cervical tubercles, after an attack of rubeola, often indeed without any visible cause, become subject to chronic ophthalmia; that we subsequently see the same child affected with subcutaneous abscesses, white swellings, and obstinate cutaneous sores. All these affections are merely to be looked upon as manifestations, under different forms, of the scrofulous diathesis. In a word, all scrofulous affections are identical in their more intimate nature, and have all the same origin,—a fact which becomes the more evident the farther we pursue our investigations into the circumstances under which they manifest themselves.

Tubercular Scrofula.

Tubercles form undoubtedly the most important anatomical character of scrofula, their presence alone giving weight to symptoms which, without them, would have little or no importance. It is thus, for instance, that we pronounce an ophthalmia or a coryza—which resists ordinary methods of treatment—to be scrofulous, from the circumstance of the patients presenting tubercles in some region or other of the economy. Indeed, when we consider that tubercles co-exist with all other forms of scrofula, we cannot do otherwise than look upon them as the emblem of that disease,—as scrofula itself.

Modern pathologists have shown themselves conscious of the important part which the formation of tubercles occupies in pathology, and have made them the subject

of continued and laborious researches. The numerous attempts that have been made to enlighten this department of science, have not, however, been attended with as satisfactory a result as might have been anticipated,—a fact which may be accounted for by the peculiar direction which has been given to the researches hitherto undertaken. Pathologists have studied the formation of tubercles locally; that is, they have examined them successively in the different organs of the economy, and more especially in the lungs, without taking into consideration the morbid element which constitutes the link between tubercles, in whatever region they may be found; in other words, without taking into consideration their common origin, and the identity of their nature.

Tubercles are found in every region of the body, in every elementary tissue, in every organ; but wherever they are found, their anatomical and physical characters are the same. This being the case, there are no local considerations applicable to tubercles, examined physically and anatomically; all that we have to say on the subject will, therefore, apply to tubercles considered in a general point of view.

External characters of tubercles.—Form.—Tubercles are round or ovoid; but this their original form is occasionally modified by their contiguity to one another, or by their relation to other organs. Thus, when a number of tubercles are agglomerated, and pressed against one another, as when they develop themselves on the surface of bones or along vessels, they may present nearly any variety of shape. As, however, they always offer the form above mentioned, in whatever tissue they may appear, when not impeded in their development by the causes we have enumerated, it is evident that their form is not accidental.

Volume.—Tubercles are generally found to be very small when examined at their origin; and even when arrived at their full development they do not go beyond certain limits. In all probability they are for some time so small as to be invisible to the naked eye, but we shall only study them when sufficiently developed to be appreciated by the senses.

The size which tubercles acquire varies according to the organ in which they are situated. In the lungs their volume never goes beyond that of a small pea; when they appear larger, which is often the case, it is that several tubercles are aggregated so as to assume the appearance of a single tubercle. In the spleen they arrive at a greater size; and it is by no means unfrequent to find them as large as a bean. In the liver they become even still larger; they are sometimes found

a little larger than an olive, but that is, generally speaking, the greatest size they attain. During the last twenty years M. Lugol has often seen tubercles of various sizes in the vertebræ; he has met with some as large as a walnut. But it is more especially in the cervical, axillary, and inguinal regions, in the mesentery and mediastinum, that they appear to arrive at the greatest development: in these parts of the body they often become as large as an apricot; indeed M. Lugol has seen them as large as a fowl's egg. Tubercles, however, only attain the above-mentioned size when they are situated in a region abundantly supplied with cellular tissue, and when they are not impeded in their development by the surrounding organs; we never find them presenting this size in parenchymatous organs.

Whenever we find a tubercular mass presenting a greater volume than that which we have described as the minimum of tubercular development, we may take it for granted that it is formed by the aggregation of two or more tubercles, or of two or more tubercular tumors, the reunion of which often takes place long before they have arrived at their maximum of development.

Colour.—In the great majority of cases tubercles present a whitish grey colour, which is generally modified by a slight yellow tinge, and which may be compared to the kernel of a horse-chestnut. The yellow tint becomes evident as the tubercle softens.

In some instances, these pathological productions present a singular mixture of tubercular and of melanic matter. On making a section, we find the shades well defined and perfectly distinct from one another. This disposition may be met with in every region of the economy. The largest melanic tubercle, which M. Lugol has seen, was found in the vicinity of the cæcum, which it had perforated: two-thirds of the tubercular mass had been destroyed; the third, which remained, was composed of a mixture of white and black matter.

On a subject that presented numerous tubercles along the course of the larger vessels, M. Lugol found many of a bright yellow colour, and in another instance he found many of a deep olive hue. These modifications in the colour of tubercles are seldom met with, however, and must, therefore, be looked upon as exceptional.

Density.—The density of tubercles is far from being the same at every epoch of their existence; it varies according to the period of development at which they have arrived. When they have acquired a size which enables us to appreciate them with the naked eye, they are generally solid, and constitute the granules of Bayle and Laennec,

but M. Lugol does not consider this to be the first period of their existence; he thinks that they are generated under the influence of the law to which all organized bodies are subjected, and in accordance with which they are liquid before they become solid.

Tubercles may, however, be partly liquid although they have arrived at a size which no longer allows us to call them granules. In 1823, M. Lugol had a patient in his wards, who presented in the cervical region a voluminous tumor, which appeared to be of a tubercular nature, and offered in some parts slight fluctuation. One of the tubercles was incised, and found full of a perfectly serous fluid. Several others were also incised, and gave issue to a fluid, the serous nature of which was not so evident; indeed, its resemblance to diluted tubercular matter was such as to warrant the belief that, in the latter instance, it was merely the product of softened tubercles.

Anatomical structure of tubercles.—If we examine the anatomical formation of tubercles, we find that they are constituted by an external envelope, or cyst, and by the tubercular matter which the cyst contains. Anatomists have denied the existence of blood-vessels either in the cyst or in the tubercular matter, because the most minute examination does not, they say, enable us to discover their presence; and most of them have endeavoured to explain the progressive development of tubercles, by attributing it to the juxtaposition of tubercular matter secreted by the tissue in which the tubercle is situated. These conclusions, however, are not to be implicitly adopted; it is scarcely possible to account for the regular and progressive growth of a body like a tubercle, without allowing that it possesses within itself means of nutrition, or, in other words, blood-vessels. Guided by these theoretical views, M. Lugol has directed his attention to anatomical researches, which alone are calculated to throw light on the subject, and has been fortunate enough to find the opinions he had formed *à priori*, confirmed by the result of his labours; he has repeatedly found vessels ramifying not only in the cyst, but even in the tubercular matter itself.

Tubercles, therefore, are no more to be looked upon as devoid of blood-vessels than the pleura or the white substance of the brain. When congestion or inflammation does not exist, the naked eye cannot discover their presence; but when these phenomena are observed, the existence of blood-vessels is often easily detected.

Hæmorrhage in tubercles.—Not only are blood-vessels found in tubercular matter, but these vessels are susceptible of becoming congested to such a degree as to be rup-

tured, and to produce in the interior of a tubercle hæmorrhage which may be assimilated to that which occurs in the cerebral substance. The hæmorrhage is sometimes confined to one tubercle, whilst in other cases it is met with simultaneously in several: it always coexists with abnormal development of the vessels which ramify in the cyst or in the tubercular matter, and which thus become visible. Numerous cases of visible vascularity or hæmorrhage in tubercular structure, have been met with by M. Lugol, at the Hôpital St.-Louis, during the last twelve years, one of the most remarkable of which is that of a young man who died in June 1828, and on whom were found more than fifty sanguineous collections in the centre of tubercular tumors. This case, with a set of highly-finished coloured sketches illustrating the morbid specimens, was communicated at the time to the Academy of Sciences.

Tubercular tumors.—When describing the forms which tubercles assume, M. Lugol mentioned the fact of a tubercular mass being often constituted by two or more tubercles, or by two or more tubercular tumors, which, gradually converging, form at last one mass. This origin of many tubercular tumors is generally indicated by the irregular lobular form which the mass presents, but it becomes still more evident when we incise the tumors. We then find the divisions which exist between the aggregated tubercles distinctly marked: we may, indeed, compare the incised surface to a map, on which each tubercle occupies a certain limited district. Sometimes all traces of aggregation disappear both externally and internally, so as to give to a tubercular tumor thus formed the appearance of a homogeneous mass. M. Lugol was himself deceived many years ago in an interesting case which occurred in his wards. On examining a young girl after death, he found large, crude, tubercular masses, perfectly homogeneous, on the zygomatic apophysis, in the left cervical region, and on one of the pleuræ. These tumors were looked upon at the time (1820) as of a cancerous nature, although several isolated tubercles, which were found in their vicinity, might have led to a more correct diagnosis. The error, however, was in the end useful, as it led to the conclusion, that crude tubercular tumors may unite, and become intimately blended with one another; as had no doubt been the case with the subject just mentioned. In some cases we may follow the trace of the original separation, gradually becoming less and less apparent, and finally disappearing.

Seat of tubercles.—Many pathologists state that tubercles are always developed in

the lymphatic ganglions; whilst many, on the other hand, assert, that they are merely engorged ganglions that have undergone the tubercular degeneration. Some have even gone farther, and, entirely overlooking the true nature of the scrofulous tubercle, have given to it the appellation of *glanditis*—an appellation which is not only contrary to facts, but is also calculated to give rise to most erroneous and most fatal notions respecting the therapeutics of the malady. By adopting this appellation we assert the inflammatory nature of the disease, whilst, in reality, it only develops itself on persons of a naturally weak or accidentally debilitated constitution; that is to say, in cases in which antiphlogistic measures are absolutely contra-indicated.

Tubercles do not originate in any tissue or in any organ exclusively, nor are they the product of degeneration. Every anatomical element, every organ in the body, is susceptible of becoming the seat of tubercles under the influence of the general and unknown cause to which their production is owing. Once they have originated, they go through different periods of development, like all the other accidental tissues which appear in the human economy.

Although tubercles are found in every organ and in every tissue, they nevertheless have a decided predilection for the parts which are abundantly supplied with cellular tissue and for lymphatic ganglions; indeed it is, no doubt, to this circumstance that we must ascribe the opinion of those pathologists who look upon lymphatic ganglions as the exclusive seat of tubercles. To prove how groundless is this opinion, we need only remark that, in some cases, the number of tubercles greatly exceeds that of the lymphatic ganglions, and that the former are not unfrequently met with in organs, such as the brain, the cerebellum, or spinal cord, in which no lymphatics have yet been found.

It is in the cervical and inguinal regions, and in the thoracic and abdominal cavities, that tubercles are most frequently generated. Their number and development is in relation to the abundance and laxity of the cellular tissue; and as all these regions are plentifully supplied with that element, their generation may be said to be nearly unlimited, more especially in the mediastinum and the peritoneal spaces, as also in the tissue of the lungs, the structure of which is essentially cellular. In other parts of the body tubercles are rarer, and of less size; in other words, tuberculization is more discreet. Thus, the tissue of the liver, even when that organ is said to be loaded with tubercles, is never partly destroyed and replaced by tubercular matter, as is often the case with the lungs.

Subcutaneous tubercles.—Subcutaneous tubercles are the most striking manifestation of the tubercular diathesis.

In the cervical regions subcutaneous tubercles have long been designated by the name of scrofula, or king's evil; indeed, for most of the older pathologists scrofula consisted nearly entirely in the cervical manifestation of tuberculization. Even in our own days we still find different names given to tubercles, according to the organ or region in which they appear. Thus, mesenteric tubercles constitute *tabes mesenterica*, or tubercular mesenteritis; pulmonary tubercles are called pulmonary phthisis; the tubercles which protrude underneath the skin are often described as tumors: and all these forms of tuberculization are still studied, generally speaking, as if they were separate distinct diseases. Pathologists have not endeavoured to link them together; they have not tried to prove that tubercles are everywhere identical in their origin, development, and termination; and that, consequently, pulmonary phthisis, tubercular mesenteritis, &c. merely constitute chapters in the history of tubercular scrofula.

Cervical tubercles are scarcely ever met with alone; nearly always, not to say always, they coexist with tubercles developed in other regions into which the eye cannot penetrate.

With very young children they are generally small, disseminated, circumscribed, and often remain stationary for a considerable period. About the end of the first or second septennary period they increase in size, approximate, and give rise to tubercular tumors, the size of which varies considerably. The tumors may exist on one side only, as is also the case sometimes in the lungs, or on both, but seldom present an equal volume on the two sides of the neck when double. These tumors remain in a crude state during a variable period, and then enter into a new epoch of their development, which we will describe when treating of the softening and suppuration of tubercular structure.

A remarkable fact, which we must not pass over in silence, is, that these tubercular tumors often acquire a size which may be termed monstrous without giving rise to pain, and without causing any abnormal phenomena by their pressure on the circulatory, respiratory, nervous, or digestive organs, which are situated in the cervical region. Patients are often seen in the scrofulous wards of St.-Louis who present voluminous cervical tumors, which merely produce inconvenience by their weight; mastication, deglutition, and respiration, being perfectly free. It is, indeed, only as a very rare exception that we meet

with lesions mechanically produced by the presence of tubercular tumors in the cervical region; and this consideration is of great importance for diagnosis.

Cervical tubercles are sometimes suspended, as it were, in branches, to the mastoid apophysis. Sometimes they form a kind of collar, extending from the mastoid apophysis to the genio-apophysis; whilst in other cases they occupy the subclavian hollow, descending even underneath the clavicle, and forming a continuous chain with axillary tubercles, or with tubercles lodged in the mediastinum. We may often trace them along the course of nerves or blood-vessels; sometimes, indeed, we find them entirely surrounding these organs, without their giving rise to any pathological phenomena. M. Lugol has, however, met with some few cases in which their vicinity to these organs has been attended with mischief.

The above remarks will equally well apply to tubercles developed in the axillary or inguinal regions, which, we may observe, are nearly always found to coexist with tubercles generated in other parts.

Lastly, tubercles may be found underneath the skin of the arms, of the thighs, or of the posterior region of the neck, and are there confounded by many surgeons with sebaceous tumors, &c. Too often for the unfortunate patients, surgeons guided by these views resort to their ablation as the only means of cure. Soon, however, the reappearance of other tubercles shews that a symptom only has been destroyed, that the general malady remains, and is often only accelerated in its course by the operation.

Let us now examine the development of tubercles in the splanchnic cavities. Tubercles are more frequently met with in the posterior mediastinum than in the anterior: they are also larger, and appear to have arrived at a more advanced period of their existence, in the former than in the latter, when coexisting in both. The presence of tubercles in the mediastina generally coincides with their existence in other parts of the economy; indeed they frequently form a chain continuous with tubercles developed in the cervical or axillary regions. The remarks which we have made on the absence of symptoms likely to be occasioned by the pressure of tubercles on the organs which they surround in the cervical, axillary, or inguinal regions, are equally applicable to the thoracic and abdominal cavities. M. Lugol has repeatedly seen the lower extremity of the trachea and of the bronchi surrounded by tubercular masses, through which they appeared, as it were, to pass without the respiration being in the least disordered. These tubercular masses contract intimate adhesions with the lungs; and

when they soften and suppurate, ulceration of the pulmonary tissue often ensues, and a communication is then established between them and the pulmonary vesicles and bronchi. In these cases the expectoration of pus and tubercular matter, as also other symptoms which are generally referred to confirmed phthisis, may exist without the general nutrition being in the least disordered.

Tubercles are exceedingly frequent in the peritoneal regions in children, and have been described by nearly all pathologists as a separate disease, under the names of *tabes mesenterica*, &c. For M. Lugol they are merely a manifestation of the scrofulous diathesis, and belong *in toto* to the history of scrofula.

In adult age, they are also frequently met with, but are then seldom accompanied by the general atrophy, by the marasmus, which so often indicates their presence in the first period of life. With children the formation of tubercles in the mesentery is generally followed by loss of appetite, and a disordered state of the digestive functions. They become weak, pale, emaciated; their limbs, lean and small, contrast disagreeably with the volume of the abdomen; all the functions are in a state of languor; and too often this terrible malady terminates fatally. With adults these phenomena are seldom observed: the presence of numerous tubercles in the mesentery is perfectly compatible with tolerably good general health.

Mesenteric tubercles are more or less numerous, more or less developed, according to the patients on whom they are met with, but are nearly always perfectly distinct from the lymphatic vessels and ganglions—a fact which explains the compatibility of their presence with a normal state of the general nutrition. The space in which they develop themselves being, we may say, unlimited, and the cellular tissue lax and abundant, they sometimes multiply in a frightful manner, and acquire a very large size: indeed, in no other region do we find tubercular masses so large. An important remark, with regard to abdominal tubercular tumors, is, that they seldom establish a communication with the cavity of the intestinal canal, by giving rise to ulceration of its parietes. The cæcum nearly alone seems susceptible of contracting adhesions with them—a fact which is partly accounted for by the laxity of the other portions of the intestinal canal; a laxity which enables them to avoid, as it were, the tubercular tumors, as these last gradually increase in volume.

DR. STROUD, ON MEDIATE AUSCULTATION.

[For the *London Medical Gazette*.]

As a supplement to the discussion on mediate auscultation which has lately appeared in the *MEDICAL GAZETTE*, and wherein his name has been repeatedly mentioned, the author of the following remarks thinks a short account of the instruments which for many years past he has been in the habit of using, may not be unacceptable. In a matter so simple, the merit of invention is too small to be a fit subject for contest, or self-complacency, and it is very probable that several practitioners have spontaneously resorted to similar expedients. Thus, in the year 1829, N. P. Comins, Esq. of Edinburgh, published in this work an account of a jointed stethoscope, contrived by himself, and accompanied with a plate*.

The adoption of these instruments, as far as the author is concerned, took place in the following manner. Impressed at an early period with the value of auscultation as a means of diagnosis, he commenced the practice when a student in Edinburgh, and afterwards attended the lectures of its celebrated inventor in Paris, but was never thoroughly satisfied with the rigid cylinder of Laennec, and made several attempts towards its improvement. About nine years since, whilst engaged in this pursuit, he found at the shop of a respectable surgical instrument-maker in London† one of the flexible tubes used by deaf persons; and, on applying it to the chest of the master of the shop, ascertained that, in various positions, and at the distance of several feet, he could distinctly hear both the respiratory and the cardiac sounds. From that time to the present, with slight modifications suggested by experience, he has constantly employed the instruments of which a description is subjoined; and, having found them well adapted to the purposes for which they are designed, has strongly recommended, and in some instances presented them to his medical friends,

but hitherto with little success as an advocate. Should they henceforth become better known, and more extensively adopted, the merit will be in a great measure due to Dr. Golding Bird, and Dr. Burne, who have studied the subject for themselves, and have communicated their observations with so much promptitude and ability to the public.

Description of the instruments.—These instruments, of which a wood-engraving is annexed*, are three in number; the cardiscope,—the flexible stethoscope,—and the leather pleximeter. It requires but little acquaintance with the Greek language to be aware that the termination *scope* is adapted to express objects of sight only, and not of sound; and, were it worth while to propose new appellations, the terms *sphygmometer*, and *pneumometer*, would perhaps be preferable to those now in use.

The cardiscope, chiefly intended to explore the sounds and impulse of the heart and arteries, consists of three pieces; a cylindrical stick of cedar, E, and two circular discs of ebony, F and G. The stick, which is eight inches long, and seven-tenths of an inch thick, is tipped at each end with a cap of ebony, expanding at its middle into a shoulder, and terminating in a male screw, a quarter of an inch in length, and half an inch in diameter. Each of the discs is pierced at the centre with a corresponding hole, formed into a female screw. The diameter of the aural disc, F, is two inches and a quarter; that of the objective disc, G, an inch and a half. They are slightly concave on the outer, and convex on the inner surface; and their thickness at the circumference is about the twelfth of an inch.

The flexible stethoscope is, in like manner, composed of three pieces: the tube, A, the aural end, B, and the pectoral, or objective end, C. The tube, which is of the same kind with that in use for enemas and other purposes, is formed of caoutchouc-cloth, lined with a spiral and elastic iron wire, the coils of which are in close contact with each other. Its diameter is externally five-twelfths of an inch, and internally, three. The ends are composed of ebony, the aural end being

* *MEDICAL GAZETTE*, vol. iv. pp. 427—430; 529, 550.

† At Mr. Weedon's, No. 41, Hart Street, Bloomsbury, in the summer of 1832.

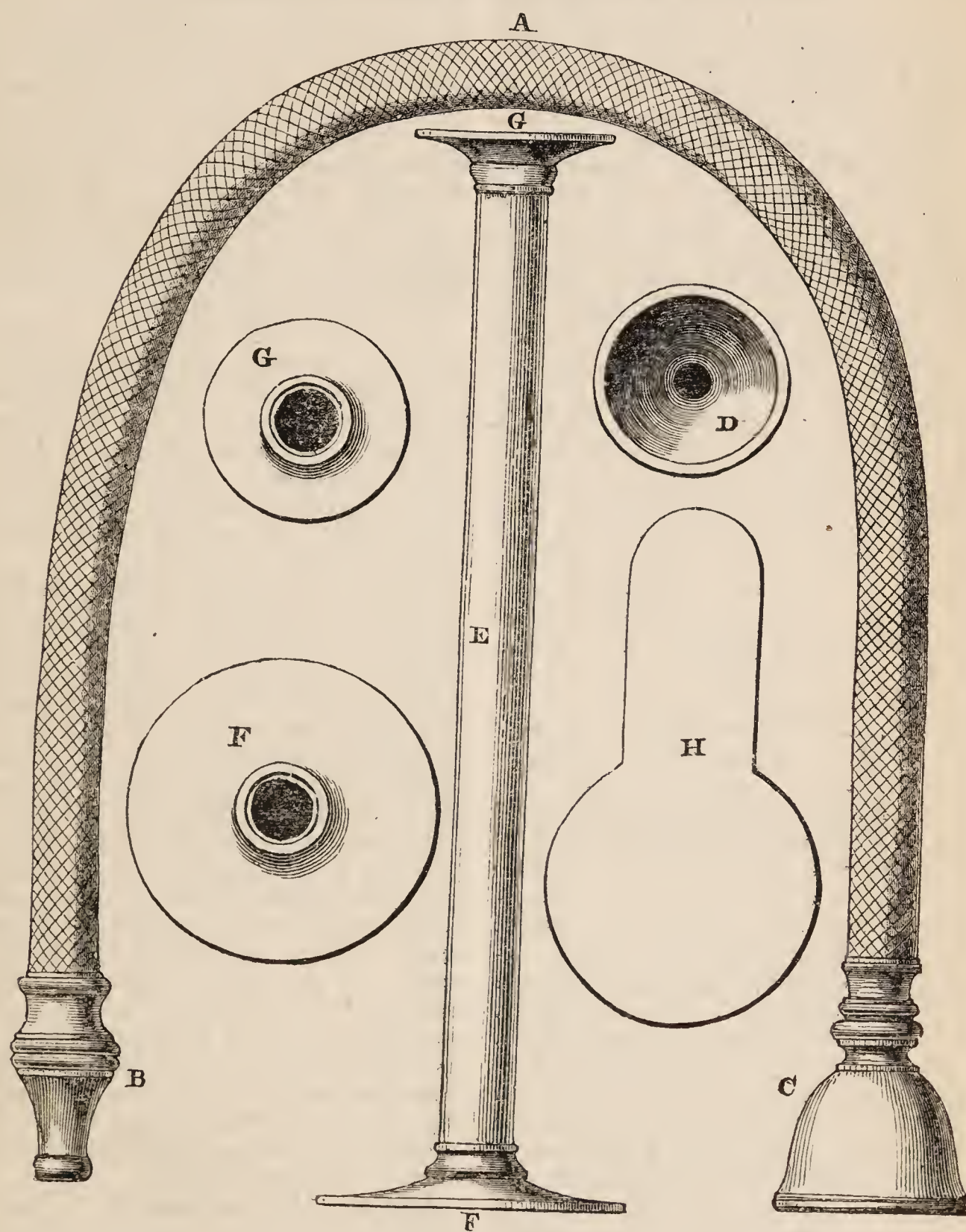
* Executed by Mr. Vasey, No. 18, Hamilton Place, New Road.

fixed, and the objective one moveable. The former is a short firm tube, continuous with the flexible one. Its length is an inch and a quarter; and the diameter of its outer extremity, which is broad and expanded, is one-third of an inch. The objective end is a conical cup, with a thick cylindrical edge; and, by means of a neck furnished with a female screw, may be united at

pleasure to the other extremity of the flexible tube, which is provided with an ebony cap terminating in a corresponding male screw, one-third of an inch in diameter. The length of this end, and its larger diameter, are respectively rather less than an inch and a half. The length of the whole instrument is twenty-one inches.

The leather pleximeter, H, is a disc

Auscultatory Instruments recommended by Dr. Stroud.



Explanation.

A. Flexible Stethoscope.
B. Its aural end.
C. Its pectoral end.
D. Interior of ditto.

E. Cardiscope.
F. Its aural end.
G. Its objective end.
H. Leather Pleximeter.

of sole-leather, moderately hard, and the eighth of an inch thick. Its form is compounded of a circular portion, two inches in diameter, and of a tongue or neck, an inch in breadth. Its entire length is about four inches. These instruments are purposely contrived to be portable, and the whole of them may be conveniently carried in a flat bag, containing a deep pocket for the larger pieces, and a short one for the others. The dimensions above specified have been found to answer well, but some of them may be varied, if necessary, to suit the taste or peculiarities of different practitioners*.

Mode of using the instruments.—Auscultation may, in many instances, be performed sufficiently well without much nicety, or attention to rules; yet, when a very accurate examination is required, the patient should in general stand erect, with the back supported, the arms pendulous, and the muscles relaxed; in short, in the posture assumed by soldiers when commanded to *stand at ease*. The trunk of the body should be free from pressure, and should therefore have no other covering at the time than a large shawl, loosely fastened in front, which, even with young and delicate females, may easily be so managed as to prevent any unpleasant exposure. The mind should be as calm and cheerful as possible, with which view the practitioner will be careful to avoid all appearance of mystery or solemnity, and will probably remark that this kind of investigation, although very useful, is extremely simple and easy. He will also promptly announce any favourable results which may be observed, and exercise a prudent discretion with respect to those of an opposite character. A quiet and retired place should be chosen, to exclude extraneous sounds; and one suitable friend or attendant, but not more, should be present to render assistance.

In conducting the examination, it is usually most convenient to begin with the pleximeter, and to end with the stethoscope. The former is held loosely in the left hand, and, according to circumstances, either its broad or narrow portion is gently but steadily pressed

on the part to be explored. The narrow portion is best adapted to the hypochondria, the intervals between the ribs, and other angular or contracted spaces. The middle finger of the right hand is the most eligible for percussion, which may be practised either with the tip, in which case the nail should be closely pared, or with the edge of the second joint bent at a right angle. The strokes should be light, quick, and elastic; and, if each is attentively considered, need not be often repeated on the same spot. By this mode of proceeding neither the hands of the practitioner nor the body of the patient are liable to be hurt; and the resonance of parts is better ascertained through leather of moderate thickness and density,—a substance analogous to the integuments themselves,—than through ivory, which is too hard and elastic, and yields an adventitious sound of its own*.

To use the cardiscope, the two discs are fixed to their axis, the respective holes and screws being for this purpose made perfectly equal. The larger end is then applied to the ear, and the smaller to the part under examination, with a moderate and uniform pressure, so as neither to excite pain nor compress the organ of hearing.

The flexible stethoscope is applied in a similar manner, after screwing on the conical cup, the edge of which should be made accurately to touch the skin at every point, whilst the other extremity is gently inserted in the meatus auditorius; the instrument being supported by slightly grasping it, near the further end of the flexible tube, with the finger and thumb of one hand. That the respiratory sounds may be more distinctly heard, the patient should, in most cases, be requested to utter several deep, but gentle sighs; and to transmit the sounds of the voice, he should count aloud a few numbers, in a slow and somewhat drawling manner. Each of these instruments should be applied in immediate succession to the corresponding parts on the two sides of the body, in order to ascertain their comparative state in reference to sound.

Efficiency of the instruments.—If well constructed, and dexterously employed, in conformity with the rules above sug-

* These instruments may be procured from Messrs. Weiss and Son, No. 62, Strand; and from Mr. Grumbridge, No. 42, Poland Street, Oxford Street.

* The author is indebted for this information to a medical writer, whose name he does not at present recollect.

gested, these instruments will be found perfectly efficient for their intended objects; but certain necessary conditions must be strictly observed. If, for example, the leather pleximeter is too thin, it will damp the natural sound of the parts examined; if too hard and thick, it will, like ivory, produce a deceptive sound of its own.

With the cardiscope, owing to its extreme simplicity, scarcely any error can be committed. The aural end should, however, not be too small, nor the objective one too large; and the outer surfaces of each should be very slightly concave, if not absolutely plane. Of the two instruments, this is the better conductor of impulse, and the flexible stethoscope of tone. Hence, if employed in succession, they furnish a useful measure of those qualities; the former yielding the clearest indications of hypertrophy, and the latter of dilatation.

The last-mentioned instrument is that which requires the greatest care in its manufacture, and delicacy in its application. Its dimensions should be moderate. If too long, it is not sufficiently portable; if too short, it brings the head of the practitioner inconveniently near to the body of the patient. The bore should be throughout as smooth and equable as possible, the internal surface of the wooden portions highly polished, and all angles and edges nicely rounded. Without entering minutely into acoustic considerations, it may with much probability be affirmed, that the principal conducting power of this instrument resides in its solid walls; whilst the tubular form, by its reverberation, slightly augments and modifies the sound transmitted. Provided, therefore, the requisite flexibility is maintained, the thicker the walls of the tube, and the smaller its bore, the better. The diversity of its materials does not appear to produce any sensible difference in its effect. As a superior conductor of sound, the elastic iron wire is an important constituent; and, to render the internal surface of its coils more continuous and uniform, Messrs. Weiss have judiciously suggested that, like those used for the clasps of pocket-books, &c., this wire should be flattened. The diameter of the two ends should not be much greater or less than is here proposed. The edges of each should be smooth

and obtuse, and those of the pectoral end perpendicular. If these conditions are duly fulfilled, a more convenient acoustic medium is established between the chest of the patient and the ear of the practitioner than can perhaps be obtained in any other manner. The application of the instrument may, also, be distinctly observed and regulated; and a satisfactory examination can be made of any part, and in almost any relative position.

Such are the instruments of auscultation which, after considerable experience of their utility, the author earnestly recommends to his medical brethren. They are simple, portable, and effective; and, if employed with intelligence and attention, afford very satisfactory results. He is glad to find that other practitioners have directed their thoughts to the same subject; and hopes that, waiving all disputes respecting originality and personal merit, they will henceforth cordially co-operate in improving and extending the practice of this important branch of diagnosis, on which, if an opportunity is granted, he proposes to offer with this view a few general and concluding remarks.

20, Great Coram Street,
Sept. 1841.

ON THE USES
OF
THE ROUND LIGAMENT OF THE
HIP-JOINT.

BY JAMES LUKE, ESQ.
Surgeon to the London Hospital.

[*For the London Medical Gazette.*]

AMONGST the contributions to anatomy and physiology communicated at various times to the Anatomical and Physiological Society in Edinburgh, by Dr. Knox, is one on the round ligament of the thigh-bone in man, published in the July number of the Edinburgh Medical and Surgical Journal, in which, after stating that ever since he taught anatomy, he has been much struck with the contradictory statements in respect to the uses of the round ligament, he proceeds to set forth the opinions of many writers of high authority upon the subject, as of Dr. Barclay, M. Boyer, M. Meckel, Sir A. Cooper, M. Gruveilhier, M. Gerdy, M.

Blandin, and Mr. Mayo, and finally concludes with the expression of his own; in which he in some measure differs from the individuals just named. These opinions are for the most part to the following effect:—1st. That it restores the head of the femur to a right direction when it has partially quitted the cavity of the acetabulum. 2d. That it prevents the femur from leaving the cotyloid cavity upwards and outwards. 3d. That it opposes luxations upwards, outwards, and downwards. 4th. That it has a tendency to prevent dislocations in all directions, particularly downwards. 5th. That it limits rotation inwards of the femur. 6th. That “rotation, which is either outwards or inwards, can be carried only to the extent allowed of by the round ligament of the femur. All attempts, therefore, to combine to any great extent the element of rotation with other movements of which the joint is capable, receive a complete check from the presence of the round ligament, and more especially the motion of adduction, which cannot be performed at all when the limb is at the same time rotated outwards or inwards.”

“Flexion inwards and upwards, combined with rotation, is also in an especial manner checked by the presence of the round ligament.”

This latter is the opinion held by Dr. Knox himself, in support of which, several experiments were made by him, confirmatory of his views. Although it was found in one of these, that, after the round ligament was divided, “the capsular ligament checked the motions of the femur just as effectually as when the round ligament was left intact,” it is not intended to question here their accuracy, or the deductions which have been drawn from them.

It will be the business of the present communication to set forth other uses to which the round ligament is destined, of infinitely greater importance in the economy of the articulation than any which have been assigned to it by any of the authorities above mentioned. These uses are of such a character, that, in my estimation, they well deserve the appellation of primary, while those, which have been just enumerated, should be considered as merely subordinate and secondary; and the whole to afford another illustration, in addition to the many which may be

found in the body, of the adaptation of the simplest means to the attainment of most complex results.

On a general survey of the articulating system, it will not fail to strike the observer, that each joint which enjoys motion to any extent, is furnished with the requisite facilities to that end; but if the attention be particularly directed to those joints upon which the weight of the superincumbent body falls when in the erect position, such as the joints of the foot, knee, and vertebral column; the fact of there being in these an additional provision, whereby the violent shocks received by one part are mitigated, or altogether prevented from being communicated to another, will not fail to be as readily observed;—and the springing arch of the foot, the interarticular cartilages of the knee, and the intervertebral substance, will be recognized as so many stops to the concussion of the body during the acts of walking, running, jumping, and other exercises.

Although the omission of the hip-joint from the catalogue of those provided with stops to concussion has been made, yet it will be found in the sequel, that the round ligament, by its arrangements, and by its attachments, is fully equal to prevent the forcible contact of the head of the femur with the upper part of the acetabulum during the motions of the joint; from which circumstance several results follow besides that of the stoppage of concussion, as will be subsequently enumerated. In the first place, it will be well to determine the truth of the observation, that the head of the femur and the acetabulum do not come into forcible contact while the round ligament is entire and in a normal condition. With this view, probably the relation of two experiments made upon the hip-joints of a man who died in the London Hospital from fracture of the skull, will be the most satisfactory course to be pursued. The first experiment was performed in the following manner on the left hip. After removal of the muscles from the anterior and lateral parts of the capsular ligament, as well as from the venter and dorsum of the ilium, a cut was made with a saw, beginning from the anterior inferior spinous process, and extending through the brim of the pelvis: another cut was made also through the brim of the pelvis, but

extending from the outer extremity of the ramus of the pubes. These two cuts were connected by a third, made nearly parallel with, but deeper in the pelvis than its brim. After which, the bone, insulated by the saw, was raised by the chisel. By this proceeding the whole upper part of the acetabulum was removed, while the anterior superior spinous process remained entire, and furnished a point from which measurements of the thigh could be made. As there was not any obstacle from bone remaining to the ascent of the femur into the abdomen, by reason of the removal of the upper part of the acetabulum, an opportunity was afforded of determining how far that ascent might be prevented by the round ligament, or by other causes. Attempts were therefore made to forcibly push up the whole limb towards the pelvis; but the attempts merely produced an increase in the tension of the round ligament, without any shortening of the distance between the superior spinous process and the patella, as ascertained by most careful measurement and comparison with the opposite side. Having determined that there was not any shortening of the thigh (the round ligament being entire), a scalpel was introduced, and the ligament divided completely through, without any further division of the structures surrounding the joint. A considerable shortening of the thigh now was effected, by pushing the limb towards the pelvis; nor did there appear any obstacle to its ascent until the head came in contact with the ilium, at the uppermost point at which it had been sawn through.

Although this experiment was performed with every care that the measurement should be accurate, it is possible that a very trifling amount of shortening, such as would be sufficient to bring the head of the femur and upper surface of the acetabulum in forcible contact, might have been passed over unnoticed.

The second experiment was therefore made on the opposite hip. The capsular ligament being bared as in the former experiment, an incision was made perpendicularly through its centre on its anterior surface, after which, the outer and upper part of the acetabulum was removed by two saw cuts, one of which was continuous with the incision of the

capsular ligament; the other traversed from the anterior inferior spinous process to the upper termination of the first. Thus about one-half of the upper part of the joint was exposed, and an opportunity afforded of examining, at the edge of the perpendicular saw cut, to what extent the acetabulum was pressed on by the head of the femur when the limb was pushed towards the pelvis by an assistant. When the limb was so treated, it was observed, that the opposing cartilaginous surfaces of the upper part of the acetabulum, and of the head of the femur, were brought barely in contact with each other, and that the thin point of a scalpel introduced between them was held by no means tightly. A different state of things was induced immediately that the round ligament was divided. The same surfaces were now brought forcibly into contact by pressure on the foot, and a scalpel, introduced in a similar manner to that just mentioned, was held with a degree of tightness very far greater than when previously introduced. The force of contact between the head of the femur and the acetabulum was regulated, therefore, by the round ligament, which, when present, prevented more than mere contact taking place.

The inferences to be drawn from these experiments necessarily induce the supposition, that other and more important uses than those assigned to it at the commencement of this paper belong to the round ligament; while the experiments themselves directly point out the nature and extent of those uses.

It must be obvious that two surfaces, prevented from forcible contact with each other, cannot transmit easily from one to the other any concussion that either might have received. It is equally obvious that, by the same preventive, friction and its effects are diminished, if not altogether removed from the surfaces, whereby the motions become less encumbered, and acquire a freedom which they would not otherwise possess. It also follows from the premises, that, in the act of standing, the round ligaments of the opposite sides serve as cords of suspension for the trunk on the heads of the thigh bones. For, assuming the pelvis, to which the round ligament is attached by one extremity, to be the fixed point, it has been shewn

that the thigh is prevented by it from ascending or from becoming shorter. But if the thigh itself be assumed to be the fixed point, to which the ligament is attached by its other extremity, the trunk, then becoming the moveable body, has a tendency to descend, which tendency is counteracted by the ligament, by means of which the trunk is suspended from the thigh or fixed point. The body therefore, while erect, in reality swings upon the two round, or, as I would call them, suspensory ligaments of the hip-joints; but steadied in that position by the enormous muscles passing from the pelvis to the thigh, in a manner analogous to the ropes which support the mast of a ship in its position, but of course capable of variation in their respective lengths, according to the necessities of varying movements of the joint.

In certain cases an argument of the existence of a provision may sometimes be drawn from the necessity of the provision; but in this case probably an argument so raised would be scarcely admissible, because the economy of the articulation has sometimes no such provision as that referred to, and consequently its absence neutralizes altogether the argument drawn from its necessity. Yet, when the enormous muscles which surround the joint are taken into consideration—muscles, to which there are none in the body approaching in power, we cannot avoid the conclusion, that their tendency must be to bring the opposing articular surfaces into forcible contact with each other; and that by causing a considerable amount of friction, some impediment to motion, and a still more important consequence, the uzure and wearing away of the cartilages, would be induced. The interposition of a provision which obviates these consequences, if not absolutely necessary, has a very near claim to be considered as necessary; and we are almost justified in its assumption as an argument. In Dr. Knox's memoir there is a reference made to cases in which the round ligament was wanting. These cases, in my opinion, afford corroborative evidence of the uses which are here assigned to it. He states, that in a joint where there was observed such deficiency, "atrophy or uzure of the cartilages had commenced, and made consi-

derable progress, as well on the head of the femur as on the corresponding acetabular surface." At another part of his memoir he says, "I have been informed by my friend Mr. Dick, of the Veterinary College here, that it is not very unusual to find the round ligament of the femur absent in the horse." In these cases he found "atrophy of the cartilages of incrustation, and the conversion of a part, at least, of the abraded surfaces into the ivory structure." Although some doubt is expressed as to which of the conditions was primary and which secondary, Mr. Dick is of opinion that the division of the ligament had precedence, and was produced by accident. On the supposition of the correctness of which opinion, the cause of the other changes described admit of satisfactory explanation, viz. that they were induced by friction and uzure of the surfaces, from an absence of the countervailing provision; while the foregoing experiments sufficiently shew, that the adequate countervailing provision against friction and uzure of surface exists in the hip so long as the round ligament remains entire.

Independently of the beauty of the arrangements of this ligament, considered as a mechanical contrivance, there occur to me considerations in reference to it, in connection with diseased actions attacking the joint, which merit some attention, and which give to it considerable importance in the practical investigations undertaken with the view to a correct diagnosis.

It is well known to the profession that, in his admirable work on Diseases of the Joints, Sir B. Brodie has recommended the surgeon, in the examination of the hip-joint, when affected with disease, to apply his hand to the heel of the patient, so as to press the head of the femur against the acetabulum; and certain inferences are to be drawn from the presence or absence of pain under the operation. Thus it is said that in hips affected with ulceration of their cartilages, violent pain is the consequence of such pressure; but, on the contrary, in the inflammation of the synovial membrane, no aggravation of pain is produced; and the diagnosis of one disease from the other is made accordingly. The general accuracy of Sir B. Brodie's observations would be a sufficient guarantee for the correctness of this rule for forming a diag-

nosis, were it not confirmed by the observation of others and of my own. Yet, notwithstanding the correctness of the rule, from an examination of the attachments and uses of the round ligament, it appears to admit of some doubt, whether the rule is not fallacious in certain cases. Thus, supposing a disease to have its origin in the synovial apparatus surrounding that ligament, provided its tension were increased, we should expect a corresponding increase of pain. Pressure with the hand on the heel produces this increase of tension; and if with it there be such corresponding increase of pain, we are taught, by the general application of the rule, to conclude that the cartilages are ulcerated, and that, only secondarily, probably the ligaments themselves may become diseased. Again, the absence of pain, when the heel is pressed, is supposed to denote absence of ulceration of the cartilages, and inferentially that the ligaments are the seat of disease: a conclusion which may be generally correct, but which may admit of exceptions, from the limitation of forcible contact between the opposing articular surfaces, induced by the uses to which the round ligament is destined (as stated above) in the economy of the articulation. According to this view, neither the presence nor absence of pain on pressure of the heel are, in every case, to be considered as unequivocal evidence of the presence or absence of ulceration of the cartilages, nor of the absence or presence of incipient disease of the synovial apparatus.

39, Broad Street Buildings.

CONTRIBUTIONS TO THE

CHEMICAL PATHOLOGY OF SOME FORMS OF MORBID DIGESTION.

BY GOLDING BIRD,

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From the results of the chemical examination of the fluids vomited in Cases VIII. and IX., detailed in the last paper, we learn that little or no chemical distinction can be drawn between the colourless liquids vomited under

the influence of very different comparative degrees of irritation. We have next to inquire whether the fluids yielded by the stomach, when its function is interfered with by derangement existing in another organ, or by an external cause, as mechanical pressure, are identical with those poured out under primary gastric disturbance. It will be unnecessary to cite more than one or two examples of those cases, which have most frequently fallen under my notice in practice, and in which the exciting cause of the gastric discharge appears tolerably well marked. So far as I have seen, the most frequent exciting causes of gastrorrhœa or pyrosis (all cases in which organic mischief obviously existed in the stomach being excepted), in their order of frequency are constipation, hepatic derangement, lung disease, uterine irritation, and mechanical pressure, either from the development of some tumor in a neighbouring viscus, or from an elongated and depressed ensiform cartilage: to these might be added the sudden disappearance of cutaneous eruptions, of which I have seen several instances.

I do not for one moment assume that, in the following cases, the functions I have considered as the exciting ones constituted the only derangements present; all that I wish to imply is, that the vomiting appeared to be connected most obviously with those to which I have referred, although, from a bare inspection of the histories of cases, it is obvious that derangement in the functions of several organs existed in each.

CASE X.—*Gastrorrhœa (?) connected with habitual constipation.*

Elizabeth Smith, æt. 31, a thin, tall, dark woman, came under my care, at the Finsbury Dispensary, on December 6th of last year. She is the mother of two children; had the last six years ago; never miscarried; has always menstruated with intense pain, generally lasting during the first two days of the discharge, which seldom continued longer than three days. The dysmenorrhœa became less severe after marriage, but never entirely ceased. She states that she has always been ailing. About six months prior to her admission at the dispensary she had slight hæmoptysis; no trace of phthisis can be discovered in the family: her parents lived to be octogenarians. Her present dis-

ease has been insidiously creeping on for a year, attended with "spasms" from flatulence, often producing a sense of suffocation and constriction about the fauces, so as, at times, to interfere with deglutition. The bowels are, and always have been, constipated, generally passing three days without any relief; and the action even of the mildest purgative is attended with excessive pain and distress. Since the age of twenty, this patient has been subject to occasional attacks of water-brash, preceded by heart-burn. This, during the last week, has distressingly increased, so that every morning, on rising from bed, she is seized with a severe pain at the scrobiculus cordis, compared to knives darting from that region to between the shoulders: she is often "bent double" with this pain, which generally lasts five minutes: at last a gush of fluid rushes up the œsophagus, producing a sensation of ice-like coldness in its tract, and on reaching the mouth seems like a mass of ice; *possessing also so sour a taste as to set the teeth on edge.*

About ten minutes after taking food, she has been, for the last five days, seized with an intense feeling of oppression, referred to the middle of the sternum, accompanied by a sensation of cutting in the stomach itself: this lasts for about a quarter of an hour; vomiting then comes on, and the contents of the stomach are voided scarcely altered in appearance. She is then tolerably easy until the next meal, when the same thing occurs. During the act of vomiting the food, she has considerable pain in the left side, and generally has headache and giddiness, with black specks floating before the eyes. Her spirits are painfully depressed; she fancies herself surrounded by misfortunes, and her temper is fearfully irritable.

This woman has lost flesh considerably within the last few weeks: the tongue is smooth, and vividly red at the edge; urine generally turbid, unless the skin acts copiously, when it became clear; pressure on the stomach gives great pain; pulse feeble, thread-like, and 80 in the minute.

Dec. 6th.—Pil Cambogiæ Co. gr. v. 2dis horis ad catharsin.

8th.—She took five doses. The bowels were copiously acted on; a large quantity of scybalous masses, mixed with black and green offensive

glairy matter, came away; vomiting continues; flatulence distressing. The fluid brought to me this morning was vomited in two gushes; it was limpid, slightly acid in its action on litmus paper, and contained a few mucous flocculi. Its action towards reagents is shown in the table annexed to these cases.

℞ Ext. Conii, gr. iv.; Pil. Hydrarg. gr. ʒ. M. ft. pilula ter in die sumenda.

℞ Magnesiæ Sulphatis, ʒss.; Magnesiae Carbonatis, gr. v.; Acidi Hydrocyanici (Scheeli), ℥ij.; Aquæ, fʒj. M. ter in die.

Diet limited to dry toast, tea, light pudding, broth; no sugar, vegetables, or fermented liquors.

11th.—Water-brash continues in the morning; still vomits her food; bowels not acted upon since the 7th; flatulence less oppressive.

Rep. Pilulæ; rep. Haustus c. Magnesiae Sulphatis, ʒj.

12th.—Bowels acted to-day comfortably; menstruation appeared with less pain than usual.

Pergat.

16th.—Gastrorrhœa still continues; keeps the food on her stomach; menstruation ceased on 14th; states the fluid which rises in the morning to set her teeth on edge from its acidity, although a piece of litmus paper is unaffected by it; bowels not open for four days; tongue still very red and smooth.

Rep. Mist.; et Pilulæ bis die; Ol. Ricini, p. r. n.

23d.—Since the last report the bowels have acted tolerably well, with only occasional assistance from the oil; motions dark, and still offensive; no gastrorrhœa for some days: urine has been limpid up to to-day, when a copious deposit of lithate of ammonia occurred, probably owing to the function of the skin being checked by the intense cold produced by a snow-storm during the night: complains of pain under the left breast.

Emp. Opii lateri sinistro; Infusi Quassiae, ʒiss. c. Magnes. Sulph. ʒj. ter in die.

31st.—No return of her ailment; feels much better; strength returning. Jan. 8th, 1841.—Convalescent.

CASE XI.—*Gastrorrhœa, depending upon functional derangement of the liver and constipation.*

Sarah Williams, æt. 25, a tall, rather

stout woman, of remarkably fair and florid complexion, came under my care at the dispensary, in June 1840, labouring under profuse menorrhagia, the discharge often lasting twelve or fourteen days at a time: of this she gradually convalesced, and remained well until the winter, and on December 7th she again applied, with well-marked symptoms of irritative dyspepsia. She appeared extremely depressed and enervated, complained of a sense of great uneasiness after taking food, followed by a gush of limpid and extremely viscid tasteless fluid from the stomach, without, however, receiving any relief from its escape: there was considerable tenderness at the scrobiculus cordis, where pressure produced much pain; and frequently a dull pain of the right side, which seemed to extend to a circumscribed spot between the scapulæ: frequent nausea, especially at the sight of food. A tendency to hæmorrhoids lately appeared, and a sallow tint has developed itself over the whole body: bowels constipated; motions scybalous, extremely offensive: pulse 83, small, and irritable: tongue covered in the centre with a slight fur; red at the tip and edges. The quantity of fluid vomited varies extremely, in general being about two ounces; in consistence it is nearly gelatinous. The patient declares that she distinctly feels it rise from the stomach, communicating a sensation of ice-like coldness as it rises to the mouth; prior to its rising, a sense of constriction, compared to a cord drawn tightly round the abdomen, between the umbilicus and scrobiculus cordis, is experienced.

Dec. 7th.—℞ Hyd. c. Creta, gr. xij.; Argenti Oxydi, gr. vj.; Extracti Hyosciami, ℥ij. M. ft. massa in pilulis, xij. dividenda, quarum sumat unam ter in die.

℞ Decocti Aloes Comp. f℥iv.; Magnesiae Carbonatis, ℥iv. Sp. Ammoniae Co. f. 3ij. M. ft. Mistura cujus sumat quartam partem omni mane.

11th.—Gastrorrhœa, and the local symptoms, very much decreased; bowels act freely; motions like blackish green mud, horribly offensive and very copious.

Rep. pilulæ; rep. Mistura, 3ss. tantum, omni mane.

14th.—Exceedingly improved; no appearance of water-brash, and scarcely any return of uneasiness in the epigastrium.

℞ Magnesiae Carbonatis, gr. iij; Decocti Aloes Co. f℥ij.; Infusi Chiriyati, f. 3j. M. ft. haustus ter in die sumendus.

20th. — Convalescent; evacuations from the bowels healthy.

The fluid voided from the stomach in this case was submitted to the action of the same reagents as the others, and the result is shown in the table.

CASE XII.—*Gastrorrhœa connected with chronic bronchitis and extensive emphysema of the lungs.*

Lucy Barker, æt. 52, admitted under my care, at the dispensary, on November 11th, 1840. A rather tall emaciated woman, with the prominent lustrous eye and livid face of asthma, who has been subject to winter cough for more than a quarter of a century: her father died at the age of sixty-six, of bronchitis; her mother is a hale old woman. During the last five weeks the cough to which this patient has been so long accustomed continued during summer, instead of ceasing with the close of winter, as had previously been the case. At the time of her admission it was painfully distressing, coming on in suffocating paroxysms several times in the twenty-four hours: she stated it to be most severe in the extremes of heat and cold, being least troublesome in mild cool weather.

Her respiration is laborious, becoming much worse on ascending eminences, and is attended with loud, sonorous, and mucous râles, audible at some distance. On examining the chest copious emphysema of both lungs, especially anteriorly, was discovered. She expectorates a copious tenacious mucus.

Generally, whilst fasting, and in the absence of the cough, she is seized with a feeling of nausea and sickness; a sense of weight and giddiness is felt over the brows, with flushes of heat over the entire surface: these symptoms are succeeded by dryness in the throat, and a sense of heat at the scrobiculus cordis; a gush of fluid then rises, with a copious eruption of flatus from the stomach, and on reaching the mouth tastes acid and bitter: in the course of the day the whole quantity equals twelve fluid ounces. The bowels are almost always confined; the skin is active; there is frequent headache; the tongue is morbidly red, especially at the edges; pulse 96, thread-like. On applying pressure over the epigas-

trium there is great tenderness: the water-brash has been present about three years.

On examining the fluid ejected from the stomach, it was found to exert a faint but decided alkaline action on reddened litmus paper, although she persisted in describing its taste as positively sour. Its behaviour towards reagents is shewn in the table. The saliva rather energetically turned blue litmus to red.

℞ Argenti Nitrat. gr. $\frac{1}{4}$.; Ext. Gentianæ, gt. ij. M. fiat pilula ter in die sumenda. Sumat Pil. Cal. c. Cal. ij., omni nocte.

14th.—Has abundance of fluid rise daily: last evening about an ounce was brought to me, in consequence of its being stated to be so sour as to set the teeth an edge; but, on examining it, I found it faintly alkaline.

Pergat.

17th.—Slight ptialism appeared, so that it is difficult to ascertain the source of the fluid she sent to the dispensary.

Omitte Pilulæ.

19th.—Bowels not open for two days: during the night she has brought up half a pint of limpid alkaline fluid without coughing: this she now states to have lost its acid flavour, and to taste like mere water. Pressure over the scrobiculus cordis gives excessive pain; tongue furred in the middle, red at edges and tip; pulse 112; complains of intense weight over the brows.

Haustus Sennæ, omni mane. ℞ Argenti Oxydi, gr. $\frac{1}{2}$; Ext. Conii, gr. iij. M. ter in die sumend.

23d.—Bowels open daily; gushes of fluid not so frequent; feels better; complains of a sense of dryness in the throat, which she attributes to the trisnitrate of bismuth, which she took in large quantities before I saw her.

Pergat.

30th.—During the last week the fluid has decreased in quantity: to-day, her bowels having become constipated, headache, with pain in the epigastrium, came on, with distressing flatulence, and the gushes of water have reappeared. Now, the fluid slightly reddens litmus.

From this report I lost sight of the patient for some months, when she again came under my care as bad as ever from the cough; the gastrorrhœa having partly disappeared.

A specimen of the fluid vomited on Nov. 30th, which differed from the other portions in being acid, was found to be of higher specific gravity than that examined when the patient first came under my care. Its behaviour towards reagents is shewn in the table given at the end of these cases.

CASE XIII.—*Gastrorrhœa connected with asthma depending on emphysema.*

Sophia Barker, ætat. 33, a short, black-eyed woman, presenting to a remarkable extent the aspect of a person labouring under dyspnœa, came to the dispensary Nov. 18, 1840. She has, for several years, been subject to cough coming on in paroxysms, which, if not cut short by vomiting, often lasts for hours, and then terminates in the expectoration of a very small quantity of a viscid tenacious mucus. These fits often come on very suddenly, and do not appear to be produced or increased by foggy or damp weather. She has long been the subject of dyspepsia, accompanied for the last six months with water-brash; the fluid chiefly rises in the morning, when fasting, is so extremely viscid as to be almost sectile, and in quantity equals two or three ounces. Its taste she describes as brackish and astringent, like alum. Its escape is preceded by a dull heavy pain in the stomach, which disappears the moment the fluid is ejected. During the last week the gastrorrhœa has appeared in the evening before supper.

A specimen of the fluid voided in the morning was of specific gravity 1.0135, and acid; whilst that ejected in the evening was alkaline, and of specific gravity 1.0128. The result of the action of reagents on these specimens is shewn in the tables.

CASE XIV.—*Gastrorrhœa preceding menstruation.*

Mary Clark, æt. 47, came under my care for bronchitis in last November; of this she convalesced, and when about to discharge her as convalescent she made the following statement:—That she was the mother of nine children; the last born nine years before, when she was deserted by her husband. From this period she has suffered extreme distress, augmented by her eldest son being an epileptic, and dependent on her for support: her food has been of the lowest character, and at times she

has been half starved. Notwithstanding these privations she has enjoyed very tolerable health, excepting for a day or two before the appearance of the menstrual discharge; she is then generally seized in the evening with pain at the scrobiculus cordis, and intense blinding headache, with vertigo, followed immediately by a sense of sickness and a discharge of fluid from the stomach. This gives a sensation of icy coldness in rising, and tastes extremely sour; in quantity it equals half a pint: menstruation generally comes on on the following day, and she remains free from sickness until the next menstrual period.

Dec. 12th.—The fluid vomited to-day was brought to me; it was stated to be very acid; but, on dropping a piece of red litmus paper into it, its alkaline condition was well marked. Its action towards reagents is shewn in the tables.

CASE XV. — *Pyrosis depending upon amenorrhœa and irritable uterus.*

Caroline Peters, a dark phthisical-looking girl, æt. 25, employed as a cook from childhood, came under my care at the dispensary, on November 9th, 1840. She states that, until the age of 11, she was very well; she then had, what she describes to be, peritonitis: at 15, she became the subject of various neuralgic pains of the chest and abdomen consequent on the non-appearance of the catamenia. For these ailments she took a considerable quantity of iron-filings during a long period, since which a tendency to an obstinately constipated state of bowels has existed.

At the age of 15, water-brash first appeared, daily after dinner, and sometimes after breakfast, preceded by pain in the epigastrium, and relieved by vomiting the half-digested food. This attack continued four months; she remained tolerably well for more than half a year, when it returned, and has done so at irregular intervals up to the present time: she first menstruated at 21, and her health for a time improved. She has had seven different relapses of the disease during the last four years; the longest interval was the last, continuing during fourteen months; six weeks ago, however, her symptoms returned as distressingly as ever. At the time of her admission (November 9th) her account was as follows:—Daily, about two hours after breakfast and

dinner, she is seized with a sense of constriction across the abdomen, like a cord drawn tightly round her; a gnawing pain and sense of weight at the scrobiculus cordis succeeds; this increases in intensity; violent retching commences, and continues for about half an hour, bringing up large gushes of colourless fluid, quite tasteless, and in quantity, at each paroxysm, equalling about half a pint. Relief to the gastric symptoms then follows. She is left weak and depressed. In general, the more fatigue or mental excitement she experiences, the more severe are the attacks. She has frequent giddiness and headache, especially during the existence of constipation; and has occasional fits of an hysterical character. The tongue is clean, perhaps rather too red; she constantly complains of a sense of sinking at the pit of the stomach. The bowels act irregularly, frequently but once in three or four days; evacuations dark, nearly black, hard, and offensive. There is frequently severe pain during micturition. No appearance of menstrual discharge has occurred for five months; no leucorrhœa: when the catamenia appear, the pain in the back and over the pelvis is excessive: pulse 72, tolerably full; heart's action natural. Pressure over the epigastrium gives extreme pain; there is also much tenderness over the uterus.

A specimen of the fluid ejected from the stomach, on November 10, was examined; the result of the action of re-agents is given in the table. The treatment of this case was tedious: the first appeal was made to the bowels, aided by minute doses of blue pill with conium; and in about three weeks a tolerably healthy series of evacuations was obtained and kept up, but still without relief to the vomiting. On December 3d, a belladonna plaster was applied to the epigastrium, and small doses of calomel and opium given before a meal, the diet being carefully regulated, but scarcely with any relief. She then took the oxide of silver; but getting no better, I directed my attention to the deficient uterine function, and ordered her to attend at Guy's Hospital, where shocks from an electric jar were passed through the pelvis, twice a week. At last, on February 5th, menstruation occurred for the first time for eight months, and with tem-

porary relief to her sufferings; still, however, the vomiting continued nearly daily. In the beginning of March all the symptoms were as bad as at first, with the addition of more prominent evidence of uterine irritation. On making an examination *per vaginam*, an exquisitely tender and irritable state of os uteri was detected, the slightest pressure producing positive anguish: this was ordered to be punctured daily, in the mode suggested by the late Mr. Fenner, and advocated by my friend, Dr. Ashwell*, and all medicine interdicted, save an occasional laxative. Under this treatment she manifestly improved, and the sickness disappeared for some time; returning, however, generally, at the end of a week or ten days, for a short time. Menstruation occurred regularly, and the uterine symptoms gradually declined, and she continued to enjoy tolerable health; the occurrence of menstruation, or the existence of constipation, always, however, bringing back the gastrorrhœa and vomiting nearly as bad as ever: the local gastric symptoms, as tenderness at scrobiculus cordis, &c. being always well marked on the accession of these attacks.

[To be continued.]

OPERATION FOR HARE-LIP.

To the Editor of the Medical Gazette.

SIR,

IN your number for September 25, 1840, you were good enough to admit a short notice of an operation for the hare-lip, in which ligatures were employed instead of the hare-lip pins. In the following case the same method was adopted with complete success. The patient, James Stroud, was aged one year and eight months. The extraordinary extent of his deformity excited the compassion of some benevolent individual, who interested himself to procure his admission into the infirmary; and he accordingly came in, under my care, on the 17th of June last. He had a double hare-lip and a cleft palate, with the portion of the superior maxillary bone, containing the

two front teeth, projecting three-quarters of an inch in front of the line of the upper jaw. The two front teeth thus presented themselves beneath the tip of the nose, with which the central portion of the upper lip between the two fissures was continuous, projecting horizontally beyond it.

July 2d.—The front teeth, with the projecting portion of bone, were removed by separating the bone, along its upper surface, from the soft parts, and then cutting it off, with bone nippers, on a level with the line of the upper jaw. The part thus removed was three-quarters of an inch in length.

August 4th.—The parts wounded in the former operation having healed, and the child recovered sufficiently from its effects, the necessary operative proceedings were resumed to-day. The central portion of the upper lip was divided from its continuity with the tip of the nose and soft septum of the nostrils, so as to admit of being brought down into its proper position between the two lateral edges of the fissures. The incision made for this purpose ran parallel to that which had previously separated the upper surface of the projecting bone; and the tissue which intervened between the two incisions above mentioned constituted a narrow pedicle, by which alone the central portion of the lip remained attached to the septum of the nostrils.

All the edges having been pared as usual, a glover's needle, carrying a double silk ligature, knotted at the end, and having a small silver disc threaded upon it, was passed through the three several portions of the deformity, exactly in the manner of the hare-lip needle. It was then drawn through until the knotted extremity of the ligature drew up the disc of silver against the lip. A second disc was then threaded on the ligature, and being brought down firmly against the opposite portion of the lip, the parts intervening were thus reduced into proper apposition. Then cutting away the needle from the ligature, the two ends of the latter were separated and tied down in a double knot against the second disc; and as it appeared that the knots thus tied would be liable to slip through the small hole in its centre, a small piece of quill was introduced between the two threads composing the ligature, so as to be held down by the

* Practical Treatise on Diseases peculiar to Women, 1840, p. 118.

knot against the disc, and to prevent any accident of that kind.

A similar proceeding was adopted with the ligature near the labial extremity of the fissures, excepting that, on account of its shortness, the central portion was not included.

These two ligatures held all the portions of the deformity in very satisfactory apposition. Further support was afforded by means of a bandage formed of four pieces of ribbon, which were united in pairs by several silk threads, each about an inch in length, the threads of the one pair passing through the intervals between those of the other.

This bandage, applied in the usual manner, was secured on the cheeks by straps of sticking plaster, and a narrow double-headed roller put on over all.



9th.—This day the ligatures were withdrawn, and the hare-lip bandage reapplied. Union had taken place at

all points of the opposed surfaces. The superior ligature, which had been too much tightened by the introduction of the portion of quill, after tying down the threads against the second disc, had cut out for a very little way; the lower one remained nearly as when introduced.

16th.—The dressings were entirely removed.

26th.—The child was discharged, cured of the hare-lip.

The sketches which accompany this were carefully traced, without any addition or alteration, from sketches which I made with the patient before me. The first will be perceived to represent the deformity; the last was taken from the child, when asleep, about a week after the entire removal of the dressings.

I am, sir,

Your obedient servant,

ALFRED J. WOOD,

Surgeon to the Gloucester Infirmary.

3, Barton Street, Aug. 28th, 1841.

MEDICAL GAZETTE.

Friday, September 24, 1841.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

THE LAST YEAR'S PROGRESS.

BEFORE entering on another medical year, let us take a brief retrospect of that which has just closed—a task on which we enter with the more pleasure, from the belief that no year since our career as journalists commenced has been so distinguished by events indicating a steady and salutary advance in the correction of the errors of our system of medical polity. Let us trace the chief of these events in their relation to each of our English medical corporations.

In the College of Physicians, which hitherto had been the most slow of movement, and which, by its anxiety to preserve its system, had perilled its very existence, changes of unexpected liberality have been agreed upon; so

that it rests only with the government to have them carried into effect. The election to the fellowship is henceforth to rest with the whole body of the members ; and every member of the whole body is to be equally eligible to the honour. The privileges of members of the English universities are entirely levelled : the number of fellows is to be increased by about one-fourth : and all the members are to be admitted to equal rights in the use of the library and the museum. In a word, the College of Physicians, which a few years ago was little better than a club of the most exclusive character, will henceforth be conducted on as fair and liberal a system as any man of reason and discernment can desire. There is not even any cause to regret that, as so often happens, liberality has been permitted to degenerate into laxity ; for at the same time that the respect for education in particular universities, and for other adventitious circumstances, has been lessened, the demand for real and substantial knowledge in the candidates for the diploma has been increased. The unprofitable examination in *vivâ voce* Latin, lame and limited as it of necessity always was, has been nearly laid aside ; and the stress of the test of competency is now set in the written answers to questions on each of the subjects in which knowledge is required ; and these questions generally of such a kind as must baffle a man who does not possess a safe acquaintance with his profession.

The College of Surgeons has been rather less energetic in its improvements. It is now generally supposed, however, that the council will not long be self-elected ; but that a constituency will be formed, first from the elders, and subsequently from the most learned of the members, who will have the right of voting in the future elections

of the council. The examination for the fellowship of the College, that is, for the privilege of voting for, and of being eligible to, a seat among the members of the council, will (it is believed) be open to all the members of the College of a certain standing, who, not practising pharmacy, may be presumed to have an undivided interest in the welfare of the institution which they will virtually govern. The direction of the affairs of the College will thus at length fall into the hands of the main body of its members ; at least, it will be open to all those among them who are willing to purchase the political privilege at the expense of acquiring something more than the average of professional knowledge.

We have been glad also to find the College of Surgeons making progress in the encouragement of the science of our profession ; a good of which its ample funds render it almost exclusively capable. The recent completion of the catalogue of its museum, a work well worthy of its subject, and like it not surpassed in Europe, is not less a great boon to medical science than a just tribute to the merit of the greatest man that ever cultivated it. The increase of the number of College-students ; the farther advantages held out to them, by the offer of appointments in the army or the East India Company's service ; their election solely on the ground of their practical anatomical knowledge ; the additional time during which the library is opened ; the proposal to publish volumes of College Transactions, and the understanding that already some valuable monographs are in progress under the superintendence of the council ; though each by itself of small importance, yet all collectively give proof that an active spirit is now at work in the governing body of the College, and that they are

really anxious to further whatever measures may tend to the honour and the benefit of our profession.

We can give praise of the same kind to the Society of Apothecaries, who we willingly believe have as much of the desire, though less of the power, to do good. To them this year has brought a subject fully worthy of congratulation; nor to them alone, but to the whole body of the profession. As the only medical corporation supposed to be possessed of privileges which it is dangerous to invade, and as being therefore alone able to control the illegal practice of medicine, it could not but be a question of importance whether these privileges were real or merely nominal, and whether by a quibble of words any man might practise medicine in any manner that he pleased. Of this question the Apothecaries' Company has at length, by acting with a degree of energy and perseverance which cannot be too much praised, and which go far to compensate for all that they have ever not done, or done amiss, obtained a satisfactory solution; and in future it lies in their power to punish any man who, without a license from them, prescribes and sells medicine. It would be impossible to point out the extent of good which may be made to flow from the possession of this right; and, although it may not be possible altogether to put an end to illegal practice, we sincerely hope that in succeeding years we shall find the Company wielding their power, in the protection of their licentiates, with as much judgment and energy as they have displayed in regaining it.

We have more than once in the course of the year pointed out the steady advance which in recent times all branches of the profession have made, in social and scientific rank, if not in riches; nor can we regret that

they have thus made room for a class beneath themselves, who are gradually taking possession of the field which they have left. One of the most striking features of the past year has been the more prominent claims to respect which have been put forward by the chemists: the public appearance, if not the establishment, of the Pharmaceutical Society, cannot fail to be an important era in the history of this class; nor is it improbable that this year will have seen the events which will issue in the addition of the pharmacutists to the ranks of the licensed medical practitioners.

Our Universities have kept pace with the movement. The pamphlet of Dr. Kidd, though there is not the least probability that all the medical reform which he advocates will ever be admitted in the University to which he belongs, is yet, we cannot doubt, the first indication of changes there. In Cambridge such changes have already been made with a spirit that indicates but a very slender attachment to the system of former times. The schemes of medical education required from candidates for the diplomas of this University, has been assimilated as nearly as was possible to that of the most modern date; with what amount of wisdom, unless as a sign of readiness for improvement, a few years' experience will best determine.

In the London University there has of course been no important change of plan; its progress has, however, been marked by a degree of success considerably beyond that which was anticipated. In this, the first year of granting its diplomas, it will already have placed itself on a level, as to the number of candidates, with our oldest and best-established Universities; a fact which cannot be ascribed so much to the mere desire of obtaining on easy terms a medical degree (for, in truth, the

terms are far from easy) as to the belief that, by the strictness of the examinations, the diploma will be regarded as conferring more than ordinary honour.

With all these facts, we are surely justified in saying that the cause of medical reform has, in this past year, made great and substantial progress: there is not an institution in which some important improvement has not been either planned or actually made; nor is there one in which anxiety has not been shown to yield whatever can be claimed as just, or conducive to the general interests of the profession. And yet, with all this, the *soi-disant* real reformers are as loud in their complaints as ever—or louder; to their minds nothing has been granted; to them the bigoted hatred of change among those that are in power is unsoftened—to them there seems as much monopoly, as much exclusion, as much of unfair privileges, as ever. And long may they think so; and long may they have as little reason for so thinking! The only change which would gratify them is that which would bring the power exclusively into their own hands; nor can they see any thing more distasteful than the sight of existing institutions, and existing authorities, strengthening themselves by self-reform. We sincerely believe that those who clamour most loudly for the destruction of abuses, hate to see these very abuses destroyed; because their removal loosens the hold by which they would pull down the institutions in which they have grown. All their conduct proves that they would rather have errors of government remain and increase, than that they should be corrected by other hands than their own. Else why is it, that when the very faults which they themselves have held up for blame are remedied, not a word of praise falls from them; not a sign of

satisfaction; but instead, some louder cry than ever for the destruction of whatever is, and is improving?

Happily, however, the only class in the profession which has not had occasion for congratulation in the past year, is that of the ultra-medical reformers. In their attempts at legislation they at once split into three small sections, each utterly powerless; the subject of medical reform never received even a serious consideration in parliament; and through the whole year there has been a want of unity and energy about the proceedings of the party, which has plainly proved that they grow weak in just the same proportion as those whom they oppose are strengthening themselves. We shall be surprised if their condition, at the end of the year before us, be not one of utter despair; it cannot fail to be so if only the course of improvement which this past year has seen be steadily persevered in: *there are yet errors to be corrected, to which we shall allude in future articles*; but there are none of which the correction may not be worked by those who already are in power, assisted, as we trust they will be, by the Government.

DECEASE OF DR. HEWETT.

WE regret to announce the death of Dr. Cornwallis Hewett, which took place at Brighton on Monday the 13th inst. We understand that the immediate cause of his decease was a fit of apoplectic character.

Dr. Hewett at different times held various medical appointments; among which were the Downing Professorship of Medicine at Cambridge, and the office of Physician to St. George's Hospital (from which last he retired some years ago.) He was one of the Senatus of the University of London, and held two Commissionerships in Lunacy. He was a man of strictly honourable character, and with a mind calculated for minute and patient inquiry. He never, we believe,

attained any considerable share of private practice, and latterly his health had become much broken.

COMMISSIONERS OF LUNACY.

THE late Dr. Hewett, who was one of the Metropolitan Commissioners in Lunacy, and also Examining Commissioner under the Chancellor, shortly before his death resigned the latter appointment. This was bestowed upon Dr. John Bright, by Lord Cottenham, just before his leaving office. The other Commissionership, which Dr. Hewett had retained, Lord Lyndhurst, immediately on his recent accession to office, bestowed on Dr. Waterfield. This, we believe, was the new Chancellor's first exercise of patronage since his return to the woolsack; and we understand that it has excited feelings of unqualified admiration!

ON THE STATE OF THE MEDICAL PROFESSION, AND ON THE BEST MEANS OF IMPROVING IT.

To the Editor of the Medical Gazette.

SIR,

IT has never been my disposition to meddle with medical politics; but recent occurrences, and especially a circular issued in November last by the Royal College of Physicians, inviting its Fellows to communicate their views with regard to changes in its constitution, have led me to reflect much on the state of the medical profession, and on the best means of improving it. These reflections, and the examination of many facts connected with the subject, have produced in my mind convictions too strong to permit me to remain inactive in the cause of medical reform.

But although I thus declare in favour of reform, I must claim the title of a *conservative* reformer. For reasons too numerous to be stated here, it seems to me both just and expedient that the government of the profession should be vested in the three existing corporate bodies; but it is equally just and needful that these bodies should be so constituted as faithfully to represent, as well as to govern, the interests of their respective members.

Nothing less than an honest conviction,

that in the College of Physicians such a change is absolutely required by the state of the profession, would have induced me, the junior fellow, to move in the College the following resolution:—

“In order to make the College truly to represent the interests, the feelings, the learning, and the influence, of the whole body of physicians practising in this country, it must admit the whole body to privileges of membership. It is therefore expedient that the distinctions between fellows and licentiates should cease; and that the government and acts of the college be delegated to a Council or representative head, consisting of the office-bearers and a certain number of fellows or members; a third of which is to be elected annually, by ballot of all the members, from those of at least five years' standing in the College.”

That the College would at once receive such a proposition, now for the first time made, was scarcely to be anticipated; but I had reason to expect that it would be supported by those, who, out of the College, had, with myself, petitioned Parliament against distinctions which this resolution proposed to remove. In this expectation I was disappointed.

The failure of this, and of a similar motion afterwards brought forward by two of the most distinguished fellows of the College, does not make the case desperate. The measures that have been carried are more liberal than those proposed before the rejected motions; and I would still hope that the most influential opponents of the latter will give way on a mature consideration of the arguments in favour of a reform, that would be conservative by being complete; that would preserve the College, not for itself only, but for the good of the whole profession.

This hope induces me to address you on the subject; and I am the more confirmed in doing this, in consequence of some remarks contained in a recent editorial article (July 16, p. 662), which prove to me that the propositions in question are not fully known to you.

This reform cannot be effective or final, if the good of all its subjects be not fully regarded as its most important aim. To the medical community this principle is the more necessary, because that community depends solely on itself, being unguarded, and scarcely cared

for, by the legislature and by the government.

The position which the medical profession holds in the constitution of the country is quite anomalous. Unlike other professions, it is excluded equally from all branches of the government. The clergy are represented in the upper house of parliament. The professions of the law, the army, and the navy, not only have many representatives in both the legislative assemblies, but they are also sure to hold many influential places in the administrative and executive branches of the government. The interests of trade and commerce are guarded by special government offices, and by representatives expressly returned for the purpose by numerous co-operating constituencies. The medical profession alone is unrepresented: without government and without protection, it is a civil cypher;—a nonentity in the state!

Does our profession suffer in consequence? Look for answer to the oppressive treatment which medical men experience from poor-law unions, vestry boards, government offices, the governors of hospitals and dispensaries, from scientific bodies, and too often from the public at large. What educated man is so hardly worked and so ill requited as the medical man? Take another illustration. Is a measure seriously affecting the interests of the medical profession brought before the House of Commons: either the house is "counted out," or the members by their remarks evince their ignorance or their carelessness about the matter. Some two or three honourable members have indeed deigned to patronize medical questions: but of these, one denies to the members of a learned profession the right or the capacity to judge what is best for themselves; another is turned by every voice, and is ready to follow the noisiest or the last complainant: another, formerly himself in the profession, is now too much engaged with the interests of a populous constituency, and other matters, to give much attention to those of medicine.

Powerless as the profession is in its civil relations, its members yet have an extensive influence: but it is the moral and social influence which must accrue to those essential to the well-being of

society; it is an influence of individuals only, unlinked by a common purpose and harmonious sentiments: and powerless, because not strengthened by the sympathies and energies of union. The peer and the M.P. highly esteem their physician or surgeon, and would willingly do him a service by supporting his favourite measure in parliament: but the town doctor and the country doctor, the physician, the surgeon, and the apothecary, have each a different plan; and "who shall decide when doctors disagree?" So his lordship and the honourable member prudently and politely evade the matter.

The lately proposed scheme, of returning to parliament a member to represent the medical profession, is quite chimerical. Where is there to be found an individual so qualified by ability, knowledge, and integrity of principle—so free from party spirit and personal bias—as to possess the confidence of the bulk of the profession? And if such an individual could be found, what is likely to induce him to undertake the unenviable office? The matters of the medical profession can be fairly debated and adjusted only by a sufficient number of its own members; and to force them before parliament in a crude and unsettled state through one or more nominal representatives, would be to mix medical and general politics in a manner distasteful and injurious to both subjects, and calculated only to give to medical questions the odium of political partisanship.

We are then led to these conclusions:—that the legislature is too ignorant about the state and wants of the profession to be competent, and too apathetic to be willing, to reform it: the profession is at present too much divided in the opinions and influence of its members, either to reform or to govern itself. How obvious is the principal remedy which these conclusions suggest! *Union* above all things. Union of opinion, by which an acceptable and efficient plan of reform may be devised; and union of influence, by which this plan may be carried through the legislature.

But by what means is this union to be attained amid such discordant elements? An approach to union may be anticipated only through the true principles of incorporation and representation. Let all the members of the

profession be incorporated and represented:—not a few only, as in the present corporations, to the exclusion of the many, who are thus not living members, but dead and offensive excrescences:—not in one faculty only, to the confounding of those grades and distinctions which the extent of the art has produced, which experience has sanctioned, and which society requires; but let the existing corporations extend their arms, and open their hearts, and lift up their voices, to receive their deserted and neglected offspring, and affiliate all that should be members; to feel for them, to speak for them, and defend them; let them show a parental feeling for the whole kindred of the profession:—and then shall these bodies become vigorous in their old age, and not more venerable from antiquity and associations, than strong in the united power and affections of their members.

But be it clearly understood, in order to fix the confidence and embody the strength of the profession in the existing corporations, they must fully and fairly adopt the representative principle. The doubts which may be entertained as to the expediency of admitting to the elective franchise the lower classes of society, surely cannot apply to the members of a learned profession. None ought to be excluded from voting for representatives in the councils of their respective bodies; and to form these councils, those only should be elected who have gained the confidence of the majority of an intelligent and well-educated constituency.

The representative plan has been objected to as likely to diffuse through the profession a spirit of political agitation and discord. How blind the authors of such objections must be, and how low their estimates of the characters of their brethren! The representative plan is one essentially of union, and strikes at the very root of discord. Is there *now* no agitation, no discord? The whole profession is like a troubled sea. Men *will* stir when their rights are unprotected. Men *will* complain when their wants are disregarded. Division *must* ensue where there is no community of feeling or interest. Turbulence and democracy *must* arise where there is no effective government.

A fair representative government will go far to remove these elements of

strife. The real evils which now degrade, vex, and divide the members of the profession—the oppressions, the collisions, the invidious and unjust divisions—will then, in many instances, cease; in others they will be put in train to be lightened or ameliorated. The truly aggrieved, trusting where to find redress, will no longer waste his time and injure his temper in fruitless agitation. The voice of the malcontent and demagogue, if not altogether silenced, will become comparatively powerless and inoffensive.

And when such advantages may reasonably be anticipated from a simple change in the existing corporations, can it be supposed that these bodies will refuse to make the change? Is it possible that a selfish spirit of exclusiveness can so far prevail over a generous desire for the common-weal, as to make them look to themselves rather than to the profession at large? With the voice of complaint within and without, loudly proclaiming their weakness and inefficiency on the one hand, and their oppressive restrictions and invidious distinctions on the other, is it possible that they will still cling to what they have been, and are—to their own exclusive rights, nominal privileges and antiquated customs—and forget what they may be, and ought to be, in this enlightened age?

I cannot believe it possible. I trust that we shall find in these Colleges, close and exclusive as they have been, a number of liberal and public-spirited men, sufficient to place these bodies in the honourable and useful position which they ought to hold as the representative heads of the whole profession. This is the argument that should decide them. I would not argue the law of the case. It were frivolous to debate now whether the Colleges have or have not acted up to the letter or the spirit of their charter, or whether the Society of Apothecaries have exceeded theirs. Disputes on these points tend to no good, but only excite animosity and widen the breach.

Let us freely admit the good which these bodies have done. For example, the stamp of respectability and literary attainments which the College of Physicians has conferred on its order; the encouragement given to the study of anatomy by the College of Surgeons; and above all, the benefit conferred on

the profession and on the public by this body and the Board of Apothecaries, in raising the standard of medical education. It is because they have wrought these good things that we would expect from them still better things. It is because they have not been idle, although shackled by partial and antiquated bye-laws, that we would strike off their fetters, extend their ability, and raise them to a post of honour and of power—that of guardians and representatives of the interests of the whole profession.

Let us freely admit that in conceding the desired changes those now invested with power will make some sacrifice. But what is public virtue without some private sacrifice? It is because the disinterestedness of the act would ensure the confidence of all parties, that we would desire to see the corporations cheerfully and earnestly engage in the noble work of a thorough self-reform.

And after all, what a shadow is the contemplated sacrifice, in comparison with the substantial good to be achieved. The surrender of certain empty privileges by a few, to the end that justice and protection shall be administered to the many. Nay, in the end, will the sacrifice be real? Will not those who voluntarily give up their exclusive privileges for the common interests of the profession, so entirely deserve and obtain the confidence of that profession and of the government, that to them chiefly will be entrusted the enlarged power and higher honour of presiding over and protecting the whole medical community? Truly, I believe that they will.

In another letter I propose to develop that plan of reform in the College of Physicians, which, as it appears to me, should be the first step of the great work.—I am, sir,

Your obedient servant,
CHARLES J. B. WILLIAMS.

7, Holles Street, Cavendish Square,
Sept, 17th 1841.

ON THE MOVEMENTS AND SOUNDS OF THE HEART.

BY M. CRUVEILHIER.

ON the 9th of July last, M. Monod, surgeon to the Maison Royale de Santé, had the kindness to inform me that a child had been

born in that institution, which presented a very remarkable malformation. On going thither I found a little girl, born at one o'clock on the same day (it was then ten at night), placed on the knees of a nurse, surrounded by M. Monod and four pupils of the establishment, who were observing her with all the interest that the malformation I am going to describe was likely to excite.

The heart of this child (which in other respects was robustly made and full of vivacity) was placed external to the chest, from which it had completely escaped through a circular perforation in the upper part of the sternum, which seemed as if moulded on the kind of pedicle formed by the great vessels going from and coming to the heart. The heart was completely exposed, just as it would be in an animal with its sternum removed and its pericardium cut open. Its colour was pale, so much so that at first sight I thought it was still covered by its fibrous envelope; its surface was dry.

The heart changed its position according to the attitude in which the child was placed: when the trunk was set vertically, the heart, in obedience to its own weight, descended in a remarkable manner on the front of the sternum; the vessels which formed its pedicle became apparent on the front of the perforation; and it was evident that the dragging, to which they were subjected by the heart, was painful, for the heart accelerated its contractions, and the child uttered sharp cries, which were discontinued as soon as the horizontal posture was resumed.

The axis of the heart was vertical, and not oblique, as it is in ordinary circumstances. Touching it, or even slight pressure on it, neither disturbed its action nor seemed to cause any pain. Its ventricular portion was essentially formed by the left ventricle; the right ventricle, in fact, was only an appendage, and did not in any degree concur in the formation of the apex of the organ. In the natural position of the heart one could see nothing of the auricles except their appendices, which looked like two little wings bounding either side of the heart's base. To see the bodies of the auricles it was necessary to turn the heart over, a position which made the child cry loudly. The auricles appeared to be comparatively little developed.

The opportunity was an admirable one for studying the movements and sounds of the heart; and the following are the observations on them, made by M. Monod, the four students, and myself.

Movements of the Heart.—1. There is simultaneity or isochronism between the contraction of the right and that of the left ventricle; it is the same with the contractions of the two auricles.

2. The contraction of the two ventricles

coincides with the dilatation of the auricles and the propulsion of blood into the arteries. The dilatation of the ventricles coincides with the contraction of the auricles and the recoil of the arteries.

3. There are only two periods in the movements of the heart : the period of contraction and the period of dilatation. The period of rest, admitted by authors, does not exist ; the contraction immediately succeeds the dilatation, and the dilatation the contraction.

4. In the presence of the exposed heart, the question relative to the order of succession of its movements, namely, whether it is the contraction of the auricles which precedes the contraction of the ventricles, as the majority of observers hold ; or whether the contraction of the ventricles precedes the contraction of the auricles ; this question, I say, has no meaning : it appears that the contraction and the dilatation of the ventricles result from two opposed and constantly active forces ; each of which alternately, and as it were necessarily, prevails over the other, in an invariable order, after the manner of the two alternate movements of a pendulum, or of an exactly-balanced scale-beam.

5. The duration of the contraction of the ventricles is double that of their dilatation. If we divide the total duration of the ventricular systole and diastole into three equal periods, we should have two parts for the contraction and one for the dilatation. The period of repose admitted by authors has been assumed in the first period of the contraction. In like manner for the auricles : if we divide into three equal periods the whole duration of their contraction and their dilatation, we should have two periods for the dilatation and one for the contraction.

6. During the time of their contraction or systole the ventricles become pale, their surface becomes wrinkled, and is thrown into strongly-marked folds ; the superficial veins swell ; the *carneæ columnæ* of the right ventricle become distinct ; and the winding fibres of the left ventricle, which exclusively form the apex of the heart, become more manifest.

7. During their contraction the ventricles draw in in all directions ; and if the appearance of shortening is the most perceptible, it depends only on the vertical diameter being greater than the others. During the ventricular systole, the summit of the left ventricle, or, which comes to the same thing, the summit of the heart, describes a spiral or turn-screw motion from right to left and from behind forwards.

8. It is to this spiral movement, which is slow and gradual, and, as it were, successive, that is due the motion of the apex of the heart forwards, and consequently the stroke

of the apex against the walls of the chest. The ventricular systole is not accompanied (as I previously thought it was) by a movement of projection of the heart forwards ; it is the contraction in a spiral direction which alone causes the approximation of the apex of the heart and the thoracic parietes.

9. The dilatation or diastole of the heart is effected in a sudden instantaneous manner ; it would seem at first sight as if it constituted the active movement of the organ ; so rapid and energetic is it. One forms no idea of the force with which the dilatation overcomes any pressure upon the heart : the hand closed round it is violently opened.

10. The ventricular dilatation or diastole is accompanied by a movement of projection of the heart downwards, which was carried to its maximum when the infant was placed vertically ; it was so marked, that at first I might have thought it was during the ventricular diastole that the impulse of the heart against the walls of the chest took place. I had had, indeed, this notion from an experiment which I once made on frogs ; but the closer examination of the phenomenon has assured me that it is during the ventricular systole, and at the end of it, that the stroke of the apex of the heart against the thoracic parietes takes place.

11. The dilatation of the auricles takes place rapidly, like that of the ventricles ; but its duration is marked by the duration of the ventricular systole ;—the contraction of the auricles, on the contrary, is as brief as the diastole of the ventricles.

12. During its dilatation, the right auricle seems ready to crack, so distended is it, and so thin are its walls. The left auricle, which is narrower, more elongated, and thicker, does not present the same phenomenon—at least not in so striking a manner. But I could only judge of what took place in the auricles by the movements of their appendices.

This first series of observations on the motions of the heart being finished, we commenced the study of its sounds, with regard both to their coincidence with the motions, and to the cause producing them.

Sounds of the heart.—The ear applied to the heart, whether exposed, or covered by a fine linen, heard the double sound of the heart ; the first sound being much more feeble than it is when heard through the thoracic walls. It is therefore evident, on the one hand, that the cause of this double sound dwells in the heart itself ; and, on the other, that the first sound is strengthened by the thoracic walls. Let it not be thought that, in the present case, the feebleness of the first sound depended on the feebleness of the heart's pulsations, for its action was very vigorous ; the child, I repeat, seemed extremely lively.

2. This double sound goes on increasing

in proportion as one proceeds from the apex of the heart towards its base, and diminishes in proportion as one goes from the base towards the apex; it follows, therefore, that it is at the base of the heart that we are to seek for the cause of these sounds.

3. If the finger were applied on the origin of the pulmonary, which, it is well known, is situated [before of, and completely hides, the front of the aorta, there was perceived the perfectly clear and distinct sensation of a vibratory purring, which corresponded to the contraction of the artery, and which consequently coincided with the dilatation of the ventricle. It was feebly perceived at the moment of dilatation of the artery, and consequently of the contraction of the ventricle.

4. What does this vibration mean? As it was impossible to apply my ear immediately over the point which corresponded with the perforation of the sternum, I conceived the idea of using the index finger in the fashion of a stethoscope; and then applying the ear over some part of the finger, I recognized as clearly as possible a very marked clicking sound (*bruit de claquement*.) I repeated this experiment several times, varying it by applying my ear to the right angle formed by the metacarpo-phalangeal joint of the forefinger, and I always obtained the same result. M. Minod, and the pupils, also several times confirmed my observation.

5. I sought in vain for a double bruit; there was but one, and that was clear and as short as that of the second period; and it corresponded with the contraction of the artery, and consequently with the descent of the sigmoid valves forced down by the column of blood. The introduction of the finger as a stethoscope had the advantage of enabling us to combine the ideas furnished by the sense of touch, which informed us of the state of the artery, with those afforded by the sense of hearing.

6. The cause of the second sound was therefore very plainly the thrilling vibration of the pulmonary and aortic sigmoid valves, forced down by the column of blood tending to regurgitate at the instant of the arterial contraction. It coincided with the dilatation of the ventricle, and was, like it, brief; it coincided also with the contraction of the auricles.

7. It remained to determine the cause of the first sound. Imbued with the idea that it had its source in the motions of the auriculo-ventricular valves, I put my finger over every point of the circumference of the bases of the ventricles, with the view of determining whether, at the level of the mitral and tricuspid valves, there were not any vibrations analogous to those which I had felt at the level of the sigmoid valves; but it was in vain; I could perceive none: the ear, whether applied immediately over all the accessible

points of the base of the heart, that is, over the anterior half of its circumference, or applied on the fore-finger, used as a stethoscope, could discern nothing; and this experiment, several times repeated, convinced me that the mitral and tricuspid valves were completely soundless, just as was every part of the surface of the heart, except the pulmonary and aortic orifices; and consequently that it was necessary to look elsewhere for the cause of the first sound.

8. But if the first sound has not its seat in the auriculo-ventricular valves, if every other part of the surface of the heart is as aphonous as they are, and if the sounds communicated to the observer's ear are sounds of transmission, may it not be possible that the first sound has the same seat as the second, namely the sigmoid valves of the pulmonary artery and aorta; and that the first sound is the result of the straightening of the sigmoid valves, raised by the wave of blood which the ventricle throws out, in the same way as the second sound is the result of the depression of these valves, thrown down by the retrograde movement of the blood? This idea, which struck me like a flash of light, seemed converted into a demonstration by the following conclusions:—

A. In this new-born child the maximum intensity of the first sound was in the same place as the maximum intensity of the second.

B. The first sound was exactly of the same nature as the second, with the exception of its intensity, which was less, and its duration, which was greater.

C. If the first sound, like the second, has its seat in the sigmoid valves, all the diseases of the sigmoid valves ought to affect both sounds. Now this is what constantly happens. In all the observations which I have collected on this subject, I find that the sounds have both altered in their timbre, which appears blowing, and more or less rasping; (I speak here, of course, of those cases only in which the tricuspid and mitral valves were perfectly healthy).

D. One need not be astonished that no sound accompanies the movements of the auriculo-ventricular valves, seeing that these valves are not free, but are retained by tendinous cords which are attached to their free edges and to the surface of the ventricle. Add to this, that as the contraction of the ventricles takes place slowly, and, as one may say, in a kind of succession, the movement of the apex of the heart towards its base, and consequently the elevation of the auriculo-ventricular valves, must be performed in the same manner, and therefore without vibration. Moreover, it is evident that in the case of thickening of the mitral and tricuspid valves, they would become more or less vibratory, and that the sound produced

by them would be confounded with that of the sigmoid valves.

E. It will be objected ; if the situation of the sound be the sigmoid valves, why is the maximum of the first sound heard at the apex of the heart, and not at its base, where the valves are? Yes, at the patient's bed, the maximum of the first sound is at the point of the heart when the ventricles are contracting vigorously, so that the apex strikes forcibly against the costal cartilages ; but when the ventricles contract feebly, and the stroke is equally feeble, I can assert that it is behind the sternum, at the level of the pulmonary and aortic orifices, that the maximum of the first sound is heard ; and that it is also behind the sternum, and sometimes behind the sternum only, that I have been able to hear the first sound in hydro-pericardium. Let us not forget that the first sound is composed of two very distinct phenomena :— 1. The valvular bruit ; 2. The shock of the apex of the heart against the costal cartilages ; and it is for this reason that in anæmia, in chlorosis, and in certain diseases of the heart, the first sound is sonorous to such a degree as to be almost metallic, and sometimes to cover the second sound.

In like manner, if the diaphragm were cartilaginous or osseous, if it were susceptible of resounding on percussion, it would be in the situation of the ensiform cartilage, at the instant of the ventricular diastole, that we should hear the maximum of the second sound, in consequence of the sudden projection downwards which the heart undergoes during this diastole. Hence why, in the forcible contractions of the heart, it is easy to perceive, both by the sight and the touch, in the epigastric fossa, an elevation which alternates with that of the intercostal spaces struck by the point of the heart, from which results a very remarkable and alternate movement of undulation between the submammary and subxiphoid regions ; the first being raised when the intercostal spaces are depressed, and *vice versa*.

Conclusions.—It appears to result from what has been said that the two sounds of the heart have their seat at the origin of the pulmonary and aortic arteries, and that their cause is in the flapping of the sigmoid valves ; that the first sound, which coincides with the ventricular contraction and the auricular dilatation, is the result of the raising of the valves previously depressed ; that the second sound, which coincides with the ventricular dilatation and with the contraction of the arteries, is the result of the depression of the valves by the regurgitating column of blood ; that, on the one hand, the simplicity of the theory, and the easy and natural explanation which it gives of all the facts known to me, may be referred to as proofs of its truth ; and, on the other, that the con-

siderations into which I have entered may be regarded as affording a strict demonstration of it ; that the want of perception of the first sound, when the finger used as a stethoscope was carried successively round all parts of the base of the heart, is not a peremptory argument against the opinion I hold, since it every day happens that the common stethoscope does not transmit to the ear the feeble sounds of either the heart or the respiration. Lastly, may we not say that the first sound of the heart has its seat in the sigmoid valves, for the mere reason that this seat is no where else?—*Gazette Médicale*, Août 1841.

CASE OF RECTO-VAGINAL FISTULA.

By DR. MOTT.

Miss R., of Virginia, 22 years old, suffered, a short time after a journey from Philadelphia to New York, from all the symptoms of an abscess in the recto-vaginal region. The abscess emptied itself by two openings, one of which, situated externally, healed up of itself ; and the other, situated in the vagina, became fistulous, and during four years resisted all general and local treatment—injections, charpie tents, cauterization, incision, and excision. The patient came to Philadelphia to place herself under my care, in March 1839. I then found that the fistula opened on the right side of the vagina, half an inch from its orifice. A probe, introduced here, passed into an irregular canal, which at first ascended obliquely outwards, and then turned to the side of the rectum, and opened into its cavity about three inches above the anus. The fistula sometimes permitted gases to pass, and often a sufficient quantity of fæcal liquid to moisten the external genital organs.

It was easy to see that such an infirmity was to be treated according to the principles which guide the treatment of fistula in ano. It was in fact an analogous case, modified only by the peculiarity of the opening having taken place into the vagina. Still I could not dream of applying here the ordinary treatment of fistula in ano ; for, by the employment of a seton, or by dividing with a cutting instrument the soft parts comprised between the two fistulous openings, I should have destroyed a part of the perineum, and established a large communication between the rectum and vagina, and thus should have increased rather than have remedied the disease.

After having therefore for several days introduced, through the vagina, a large charpie tent into the fistula, to dilate it, and at the same time to straighten its course, I passed through it, by means of an eye-probe, a seton, which I then carried from below up-

wards along its whole track, till it entered the rectum, and I then drew it out by the anus. I fixed the ends of this seton loosely, so that it might not be displaced, and I left it thus for some days. I then unfastened them, and passing the vaginal end into the eye of a curved probe, I introduced the extremity of the probe into the vaginal orifice of the fistula; I then passed it up for rather more than an inch along the fistulous passage, and then raising the extremity I held, I directed the point towards the floor of the perineum, outside the sphincter ani. At this part I next made a small but deep incision, through which I drew the point of the probe, and with it the end of the seton.

By this means, the seton, instead of communicating by one end with the interior of the rectum, and by the other with the vaginal cavity, now formed a loop, which inclosed, as in an ordinary anal fistula, the inferior portion of the outer wall of the rectum, and all the soft parts comprised between it and the level of the external incision, together with the whole length of the fistulous passage. I had now only to fix the two ends of the loop, and, by gradually tightening them from day to day, to cause the strangulation, ulceration, and progressive destruction of the soft parts comprised within the ligature. Before this destruction was completed, and when the new track established between the rectal orifice of the fistula and the external incision had been a little enlarged by the suppurative ulceration maintained by the seton, the intestinal fluids began to take this latter course, and the fistulous opening in the vagina healed spontaneously. I continued to tighten the ligature every two or three days, till at last, when only a very narrow bridge of soft parts remained within the loop, I cut it across with scissors. In a few days the cure was perfected, and was accomplished in the same manner as in the ordinary fistula; and the patient was thus freed at once from a double infirmity, namely, the fistula of the rectum and that of the vagina.

Nearly a year has passed since the cure was completed, and recent intelligence has assured me of its permanence. — *Gazette Médicale*, Mai 1, 1841.

LUNATIC ASYLUMS.

To the Editor of the Medical Gazette.

SIR,

THE leading article of your GAZETTE for Sept. 3d, on "The Study of Insanity," compels me to trespass a few moments upon you, that I may redeem one institution from the severe, but in general too just charge, of withholding from the medical student the facilities for acquiring experience in the treatment of insanity, and from the public

the blessings which such experience might produce.

The governors of this asylum, yielding to the wishes of its medical officers, some time since consented to open it as a school for "the study of insanity." They proposed to effect this by admitting medical gentlemen to reside in the asylum for a given period, and to assist the resident physician in any thing which related to the management and treatment of the patients. They determined to avoid making such arrangement a profit to the establishment and an expense to the student, and therefore permit no fees to be given; but, in justice to the establishment, they require the expense of their board to be reimbursed by the students.

But it is not to our own sex and profession that the advantages of the institution are now opened. Young ladies are received amongst the female patients; and these qualify themselves to superintend the female divisions of similar establishments, or in any way to take the responsibility of managing insane females.

The plan is in operation, and works very well, though only of recent introduction: and there appears no reason to doubt that all the benefits will result from it which the most sanguine can desire.

Fearing to make this note assume the appearance of an advertisement, I will not trouble you farther than to subscribe myself

Your obedient servant,

S. HITCH, M.D.

Resident Physician.

Gloucester, Sept. 14, 1841.

EXTRACT FROM DR. MACROBIN & DR. JAMIESON'S REPORT OF THE LUNATIC ASYLUM OF ABERDEEN,

For the Year ending 30th April, 1841.

PATIENTS in the Asylum, 1st May, 1840	149
Admitted between 1st May, 1840, and 1st May, 1841	48
	197
Dismissed between 1st May, 1840, and 1st May, 1841—	
Recovered	25
Improved	10
Removed unimproved	2
Died	19
Total number removed from the Asylum during the year	56
Total number remaining in the Asylum, 1st May, 1841	141
	197

So true is it that the mental disorder is generally complicated with physical symp-

toms, that a review of the list of forty-eight recent admissions justifies us in stating that, in one or two instances only, could the individual be said to have been in good bodily health; in all the others there existed an amount of functional derangement, in various organs of the body, which, in many of the cases, left little doubt of the existence of organic lesions.

Ten out of the forty-eight had, at some previous period, laboured under mental derangement; six inherited a family tendency; four had exhibited such indications of a natural predisposition as are manifested in early waywardness and eccentricity, incapacity of control over feelings and passions, or the opposite of this—a facile condition of mind. Four had such a predisposition as may be supposed to follow repeated attacks of apoplexy and epilepsy, or casual injuries of the brain; and, deducting some cases in whose imperfect history no sufficient cause could be traced, only about twenty remain in which no such constitutional tendency, either natural or acquired, could positively be ascertained.

Almost the whole number, either from their conversation or behaviour, manifested the influence of delusions; the mental disease, in a few, being chiefly or entirely seen in moral apathy, or intellectual decay. Ten appeared to labour under high delusions in regard to their wealth, their station, or their abilities; and about double that number laboured under such depressing delusions, as the dread of some frightful disease, poison, or death—the dread of the agents of justice—of devils, and various unseen agencies; or under some more vague apprehensions of impending evil.

Eleven had manifested a suicidal propensity prior to admission; one laboured under a homicidal impulse; and another exhibited a combination of both these features. When out of the control of their friends, seven had, in connection with their respective delusions, been guilty of acts which had given occasion for judicial investigation.

About one-half of the cases were sent to us from the town, and the rest from the several parishes of the county; and, amongst the latter class, the number of instances of irremediable insanity were distinctly predominant—a circumstance which seems to be most explicable, on the supposition that there is a less judiciously conducted preliminary treatment, and much unnecessary delay in placing such patients under the care and control of a Lunatic Asylum; occasionally arising, it may be, from the inconvenience and difficulty of removing a lunatic to a distance, but too frequently, we fear, in the case of paupers, from the unfortunate unwillingness of the parish authorities to take upon them the burden of supporting any one

as a lunatic, who has not proved himself insane by some very manifest act of outrage and violence.

In regard to the subject of coercion, which has of late become one of prominent remark in the annual reports of most Asylums, we find ourselves called upon, in justice to the managers, and to the friends of the patients under our charge, to make a short statement of our practice in this important particular, and it shortly is this,—that we act on the principle of *non-restraint*, as far as the construction and economy of the establishment will allow; but we have no desire to obtain even the notoriety of being non-restrainers, at the expense of what we conscientiously deem to be for the safety and advantage of our patients. That there are cases in which mild restraint is both judicious and humane, every physician who is unprejudiced must surely admit, who has ever seen a case of furious nymphomania, or the unbridled violence of an outrageous maniac, exhausting the excited vigour of an enfeebled constitution, and extinguishing the hope of recovery for ever. We have no more hesitation in such cases, when other means have been useless, in applying the waist-belt, or the muff, than we would have in applying leeches or a blister against the will of the individual; nor can we see that the patient is more humiliated, by being thus restrained from injuring himself, than he would be by being compelled to take food, when other plans of resisting his attempt at starvation had failed. The experiment of treating the insane without employing any restraint is one that is highly creditable to those who, with great labour and the best motives, are proving its practicability; but it is well, in those instances where a spurious philanthropy, or a craving for notoriety, have led to the system of sacrificing means which equal humanity has allowed, and equal intelligence approved, if, after all, the other measures substituted are not more hurtful or degrading. The use of restraint in the Aberdeen Asylum has never been great, seldom continued, and latterly it has been successfully reduced. The number of patients at present under such control are five, and with no one of them does it include any degree of confinement within doors, nor hinder the individual from taking exercise, feeding himself, and attending to the calls of nature. The mode of restraining, which we have found in most cases the least inconvenient, consists in the waist-belt, to which are attached leather bracelets, allowing the hands a modified degree of liberty; and this form of control, or even the muff on the hands of a dangerous lunatic, we think preferable to having our patients gesticulating about our airing-yards, in canvas doublets—giving beneath a douche-

pipe promises which they break at an early opportunity, or raving under the vigilant dogging of a guard of keepers of imposing appearance.

It is scarcely requisite, now that the public mind entertains less prejudiced notions on the treatment of the insane, to notice, that threatening and abusive language, and harsh measures of every description, are not only found to be unnecessary, but are strictly prohibited among the attendants, and made the occasion of reprimand or dismissal, when discovered.

MR. BATTLE'S PHARMACEUTICAL PREPARATIONS.

WE are requested by Mr. Battley to state that, on Thursday, 30th of Sept., he will exhibit in the Great Hall of the Royal College of Physicians, by permission of the president and fellows, samples of drugs and of certain original and active preparations, which he invites the members of the medical profession to inspect. The College will be open from 10 A.M. till 5 P.M. Mr. Battley will continue his analyses of the drugs during the autumnal and winter months at the Laboratory attached to the Ophthalmic Hospital, Moorfields; and the subjects of analysis will be regularly published in this journal.

TABLE OF MORTALITY FOR THE METROPOLIS.

Shewing the Number of Deaths from all Causes registered in the Week, ending Saturday, the 11th Sept. 1841.

Small Pox	10
Measles	22
Scarlatina	12
Hooping Cough	49
Croup	6
Thrush	10
Diarrhoea	37
Dysentery	1
Cholera	4
Influenza	1
Typhus	21
Erysipelas	6
Syphilis	1
Hydrophobia	0
Diseases of the Brain, Nerves, and Senses ..	158
Diseases of the Lungs, and other Organs of Respiration	238
Diseases of the Heart and Blood-vessels	11
Diseases of the Stomach, Liver, and other Organs of Digestion	101
Diseases of the Kidneys, &c.	2
Childbed	4
Ovarian Dropsy	2
Diseases of Uterus, &c.	1
Rheumatism	4
Diseases of Joints, &c.	2
Ulcer	0
Fistula	0
Diseases of Skin, &c.	0
Diseases of Uncertain Seat	106
Old Age or Natural Decay	44
Deaths by Violence, Privation, or Intemperance	15
Causes not specified	1
Deaths from all Causes	869

LONDON MEDICAL GAZETTE FOR 1841-2.

THE volumes for the current session (1841-2) will contain—Lectures on Human Physiology, by Dr. Knox, of Edinburgh; a set of Clinical Lectures, delivered by M. Lugol, at the Hôpital St. Louis, Paris; a selection from the Lectures of Dr. Carpenter, of Bristol; together with the continuation and completion of Dr. Watson's course, on the Principles and Practice of Physic, delivered at King's College. The journal will also contain occasional Lectures by distinguished teachers; Original Communications; Analyses of Books; Extracts from English and Foreign Journals; Editorial Articles on subjects of general interest; together with all the professional news of the day: so as to constitute a complete record of medical science.

BOOKS RECEIVED FOR REVIEW.

The Oily Acids, forming the First Supplement to the Seventh Edition of Dr. Turner's Chemistry. By Professors Liebig and Gregory.

The Oration delivered before the Medical Society of London at their 68th Anniversary, March 8, 1841. By W. D. Chowne, M.D.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, September 9.

Henry Burford Norman, Taunton, Somerset.—Geo. White Raine, Billericay.—Arthur Hadwen, Lutterworth, Leicestershire.—Joseph Clough, Yorkshire.

Thursday, September 16.

William Bates, Lancashire.—Augustus Volney Waller, Faversham.—Henry Daniels.—George Adams, Wiltshire.—William Carter, Warwickshire.

METEOROLOGICAL JOURNAL.

Kept at EDMONTON, Latitude $51^{\circ} 37' 32''$ N.
Longitude $6^{\circ} 3' 51''$ W. of Greenwich.

September.	THERMOMETER.		BAROMETER.	
Wednesday 15	from	56 to 69	29.83	to 29.84
Thursday . 16		53 64	29.83	29.80
Friday . . 17		42 63	29.89	29.90
Saturday . 18		40 63	29.86	29.85
Sunday . . 19		40 68	29.93	30.01
Monday . . 20		57 68	30.05	Stat.
Tuesday . 21		56 65.75	29.95	29.77

Wind S. on the 15th; S.W. on the 16th, and following day; the 18th W. and S.E.; the 19th and two following, E. and N.E.

On the 15th, morning cloudy, afternoon clear, evening overcast with lightning, and heavy rain between 8 and 10 P.M. The 16th, morning cloudy, otherwise clear, a shower of rain about 11 A.M. The 17th, and two following days, clear. The 20th, general overcast, a little rain fell during the evening. The 21st, morning overcast, otherwise clear.

Rain fallen .185 of an inch.

CHARLES HENRY ADAMS.

WILSON & OGILVY, 57, Skinner Street, London.

THE LONDON MEDICAL GAZETTE,

BEING A
WEEKLY JOURNAL

OF
Medicine and the Collateral Sciences.

FRIDAY, OCTOBER 1, 1841.

LECTURES
ON THE
PRINCIPLES AND PRACTICE OF
PHYSIC,

Delivered at King's College, London,

BY DR. WATSON.

Hooping-cough: symptoms; duration; complications; pathology; treatment.—Pneumonia: its stages and morbid anatomy; auscultatory signs.

Hooping-cough.—I have yet to consider one very important disorder, which is usually classed among the catarrhal affections, but which is marked by features so peculiarly its own, as to distinguish it effectually from every other form of disease. I allude to *hooping-cough*: a remarkable complaint, well known every where, I believe, and much dreaded by parents. It has received a variety of names: chin-cough; kink-hoast; coqueluche; tussis convulsiva; tussis ferina; and *pertussis*. This last name, which Sydenham bestowed upon it, and which was adopted by Cullen, is the technical appellation of the disease in this country, as *hooping-cough* is the popular.

Symptoms.—The phænomena that characterize *hooping-cough* are, I say, remarkable. It begins with the symptoms of an ordinary catarrh arising from cold. The child (for it is most especially a disease of children) has coryza, and coughs; and mothers and nurses are aware that the disease commences in this way, and express their apprehensions lest it may *turn* to the *hooping-cough*. After *this*, the *catarrhal* stage, has lasted eight or ten days, or a fortnight, or sometimes a day or two longer, that kind of cough begins to be heard which is so distinctive. It comes on in paroxysms, in

which a number of the *expiratory* motions belonging to the act of coughing are made in rapid succession, and with much violence, without any intervening inspirations; till the little patient turns black in the face, and seems on the point of being suffocated. Then one long-drawn act of *inspiration* takes place, attended with that peculiar crowing or hooping noise, which denotes that the rima glottidis is partially closed, and which gives the disease its name. As soon as this protracted inspiration has been completed, the series of short *expiratory* coughs, repeated one immediately after the other till all the air appears to be expelled from the lungs, is renewed; and then a second sonorous back-draught occurs; and this alternation of a number of *expiratory* coughs, with one shrill inspiration, goes on, until a quantity of glairy mucus is forced up from the lungs, or until the child vomits, or until expectoration and vomiting both take place at once. During the urgency of the paroxysms the face becomes swelled, and red or livid, the eyes start, the little sufferer stamps sometimes with impatience, and generally clings to the person who is nursing him for support, or lays hold of a chair or table, or of whatever object may be near him, to diminish (as it would seem) the shock and jar by which his whole frame is shaken. As soon as expectoration or vomiting have happened, the paroxysm is over. The child may pant a little while, and appear fatigued; but commonly the relief is so complete, that he returns immediately to the amusements, or the occupation, which the fit of coughing had interrupted, and is as gay and lively as if nothing had been the matter with him. When the fit terminates by vomiting, the patient is in general seized immediately after with a craving for food, asks for something to eat, and takes it with some greediness.

Each paroxysm may consist of several alternations of the gasping coughs, and the characteristic hoop or kink; but Cullen re-

marks that the expectoration or vomiting usually takes place after the second coughing, and puts an end to the fit.

The number of paroxysms that occur in the twenty-four hours is variable also ; and they come on at irregular intervals. When the complaint is uncomplicated, the child, during the intermissions, appears to be quite well. This is another striking feature of the disorder. In the earlier paroxysms the mucus expelled is scanty and thin ; and in proportion as this is the case, the fits are the longer and the more violent. By degrees the expectoration becomes more abundant ; and sometimes it is very copious : at the same time it is thicker, and more easily brought up ; and on that account the fits of coughing are less protracted.

The ordinary duration of the disease is from six weeks to three months ; but it may run its course, I believe, in three weeks ; and it may continue for six months, or more.

In an uncomplicated case, if you listen at the chest during the intermissions, you will probably hear the sounds that are proper to catarrh—some degree of rhonchus or sibilus ; and in many parts there may be puerile respiration ; and if you percuss the thorax, you get the natural hollow sounds. But what happens when you apply your ear to the chest during the paroxysms of coughing ? Why, the information given us in this case by auscultation is very curious. You may perhaps hear, between the short explosive shocks of the cough, some snatches of wheezing, or of vesicular breathing ; but during the long-drawn noisy inspiration that succeeds, all *within* the chest is silent. This is supposed to result from the slow and nig-gardly manner in which the air passes towards the lungs through the chink of the glottis, which is spasmodically narrowed. It may also depend, in part, as Laennec supposed, upon a spasmodic condition of the muscular or contractile fibres of the bronchi and their branches. When the fit is at an end, the ordinary sounds of healthy, or of catarrhal respiration, are resumed.

Children are very susceptible of this complaint ; and it is a complaint which spreads by *contagion*. Hence it follows that few children escape an attack of it. It is also one of those contagious complaints which do not in general affect the same individual twice : and hence again it follows that it is rarely met with in adults. Such is the fact ; and such, I apprehend, is the explanation of it. It is not that adults are insusceptible of whooping-cough ; for adults that have not had it during their childhood are readily affected when exposed to the contagion. But it is that the disorder, with very few exceptions, protects the system somehow from its future recurrence ; and that most adults have *had*

it when they were young, and for that reason do not take it afterwards.

During the very early periods of infancy, *i. e.* within the first two or three months, whooping-cough is said to be rare : I mentioned a case, however, before—and I have read of others—in which the disorder appeared to have been contracted before the patient was born. My bedmaker's daughter in Cambridge had a child ill with whooping-cough in the house with her during the last weeks of another pregnancy, and the new comer whooped the first day he came into the world.

As long as this disease is uncomplicated—unmixed with inflammation, and therefore unattended with fever, or only with that slight inflammatory condition proper to mild catarrh—it is not at all a *dangerous* disease. Probably it *will*, under the most favourable circumstances, run a certain course. By degrees the violence and the frequency of the paroxysms diminish ; they occur only in the morning and the evening, then in the evening alone, and at length they cease altogether. But for some time after the disorder has apparently come to an end, if the child takes cold, and gets a cough, it is apt to assume a spasmodic character, and to be attended with a whooping noise in inspiration.

Complications.—Unfortunately whooping-cough is, in a great many cases, not simple—not uncomplicated. It becomes mixed up with other kinds of disease in the chest ; or in the head. In the chest severe bronchitis supervenes upon it, or inflammation of the substance of the lungs ; and then fever is lighted up, and permanent dyspnoea is present. When the disorder has been long drawn out, and has at last terminated fatally, dilatation of the bronchi, such as I described in the last lecture, is often found upon dissection ; or, still more commonly I believe, what is called *emphysema* of the lungs—a change which I have yet to bring before you.

That such effects should follow such violent and continued efforts of coughing, is no great matter for wonder. Neither can we be surprised that the disease frequently leads to cerebral disorder. During the fits there is a great and visible determination of blood towards the head, or rather a detention of the blood in the veins that proceed from the head ;—passive mechanical congestion : the transmission of the blood through the lungs being obstructed, and its return from the head interrupted. Hence, the face becomes turgid, the eyes are prominent, the superficial veins full and projecting, the lips and cheeks turn livid ; sometimes hæmorrhage takes place from the nose or ears, or the eyes become blood-shot ; or the patient actually falls into convulsions ; nay, apoplexy is occasionally the result of the straining ; and when life is not thus suddenly

cut short, chronic mischief is apt to be set up in the brain, and the child ultimately dies hydrocephalic.

All this is the more to be feared in proportion as the child is the younger. Head affections are particularly to be dreaded in scrofulous children; and in any children during the first dentition. When the disease occurs within the first two years of life, it is usually attended with convulsions: and many more die within that period than afterwards. And Cullen's remark is undoubtedly true, that the older children are, the more secure they are, *cæteris paribus*, against an unhappy event.

Hooping-cough may be complicated also with a disordered condition of the bowels; and with infantile remittent fever. This complication is more accidental, and less a *consequence* of the hooping-cough than the former; but it may very materially add to its peril.

Dr. Cullen was of opinion that the complaint may exist in even a milder form than that which I have called simple hooping cough. He thought he had seen "instances of a disease, which, though evidently arising from the chin-cough contagion, never put on any other form than that of a common catarrh." Others again believe that adults may have it without hooping. But all this seems to me very doubtful. Catarrh is an exceedingly common malady: and I should be slow to consider any case a genuine case of pertussis, unless the characteristic paroxysms of coughing, and the stridulous inspiration, were present.

Pathology.—Divers opinions have been held respecting the seat, and respecting the nature, of hooping-cough. Some suppose it to have its seat in the brain; and that it is essentially a spasmodic disease. Others maintain that it is situated in the air-passages of the lungs, and that it is always an inflammatory disorder. I do not pretend to strike the balance between these conflicting judgments. Certainly the simple form of the disease is often unattended with any appreciable fever: and that is a strong ground for believing that its peculiar phenomena are not *necessarily* connected with inflammation. They who have ascribed the complaint to a morbid condition of the brain have deduced that opinion, I presume, from the cerebral symptoms that are sometimes so plainly marked in hooping-cough. But these symptoms are oftener, to all appearance, the consequence, than the cause, of the paroxysms of coughing. I would suggest it as an interesting point for your future observance, whether the pathology of hooping-cough may not receive some elucidation from the researches of the late Dr. Ley, respecting the crowing inspiration of infants. You remember his suggestion, that mere

inflammation of the mucous membrane of the air-passages might cause swelling of the absorbent glands of the bronchi or of the neck. This is a circumstance which I have myself long thought probable, from having found enlargement of the cervical glands springing up during the existence of pulmonary irritation. Take notice that the spasmodic fits of hooping-cough are always preceded for some days by mere catarrhal symptoms. Observe farther how the parts supplied by the pneumogastric nerve are affected in these paroxysms: the larynx, the lungs, the stomach. This conjecture, that the crowing inspiration of infants, and the crowing inspiration of hooping-cough—though quite distinct affections—may both depend upon irritation of the recurrent nerve, or of the pneumogastric nerve generally; and that even the irritation in both cases might arise out of enlargement of the glands that lie in the course of that nerve: this natural conjecture had presented itself to Dr. Ley's mind; for, towards the end of his book, I find this note:—"Recently four children have been brought to my house, labouring under hooping-cough. In all, the glandulæ concatenatæ near the trachea were very considerably enlarged. Is this (he says) merely an accidental combination? or is there any essential connexion between the two? May it not be that an enlargement of these glands, from a specific animal poison, similar to that of the parotid glands in mumps, is, after all, the essence of hooping-cough? The subject at least deserves inquiry, and further observation."

In corroboration of this conjectural view of what *may* ultimately be *proved* to be the true pathology of hooping-cough, I may remark that among the morbid appearances described as being met with after death from that disease—"an unusual swelling of the bronchial glands"—is set down. It is also stated, by some of the Germans, that that portion of the pneumogastric nerve which lies in the cavity of the chest has been sometimes found red. Yet I should lay no stress upon this; for others have asserted that they have looked in vain for this redness: and even supposing it to exist, it is no sure or safe token that there had been inflammation of the nerve. The nerve, all things considered, would be likely to become tinged of that colour soon before, or even after, death, from the gorged condition of the lungs. In some cases, as you may well believe, serous fluid is met with in the ventricles of the brain, or in the meshes of the pia mater: in others the consequences of inflammation are traceable in the bronchi, the lungs, or the pleuræ. Portions of what is called hepatized lung are not unfrequently seen in the fatal cases.

Treatment.—The object of rational treat-

ment in hooping-cough, supposing the disease to be simple, is to *keep* it simple: to keep it *mere* hooping-cough: to obviate serious inflammation or mischief in the chest or head: and, if possible, to mitigate the severity and shorten the duration of the fits of coughing. I have no notion that any thing we can do in the beginning will materially abridge the duration of the complaint as it appears in its unmixed form. It *will*, I say, in all probability, run a certain course; and our business is to conduct it evenly and safely to the *end* of its course. For this purpose the diet must, in the first place, be regulated and reduced. The child should not be allowed to eat meat: the bowels should be kept moderately open: and the patient in cold weather should be confined to the equable temperature of the house, or protected by warm clothing. You will find different persons employing and praising different plans of treatment; the object in all cases, however, being the same, viz. to *ward off inflammation*, and to *quiet irritation*. One very good plan, as I believe, is that of giving a grain, or a grain and a half, of ipecacuan, three or four times a day. This generally keeps the bowels sufficiently open, and seems to have a beneficial operation on the mucous membrane of the air-passages also. Or a few grains of rhubarb and ipecacuan may be given every night: and if the cough be very troublesome and urgent, small opiates may be administered: syrup of poppies: or the extract of hyoscyamus; as many grains *per diem* as the child has years. There is a method recommended many years ago by a namesake of mine, which some people swear by. Sir William Watson's prescription was one grain of tartarized antimony and twenty drops of laudanum in an ounce of water. A tea-spoonful, or a dessert-spoonful, of that mixture was given every evening, or every other evening. I have heard the late Dr. Gooch say that his mother became famous as a village doctress by the help of that prescription. Fothergill's method was to give an emetic every day; or three or four times a week: and this plan answers best, I believe, when the expectoration is scanty, and brought up with difficulty, and after much coughing. The best emetic substance in such cases is, doubtless, ipecacuan. Mr. Pearson—who has had, I fancy, many imitators—used to give, after the operation of an emetic, one drop of laudanum, five drops of ipecacuan wine, and two grains of carbonate of soda, in a draught, every fourth hour, for several days. Under some such treatment as this, the disease will reach its termination in from six to twelve weeks: and it frequently happens that when the child is quite well in all other respects, it still continues to *cough*. The cough would almost seem to be continued by the mere

influence of *habit*. Now, under these circumstances, change of air will often remove the cough, as if by magic: and the shower-bath, and iron in some shape, will sometimes succeed, if change of air be not practicable.

There is a great variety of medicines lauded as *specifics* against hooping-cough: but they are not to be trusted to. Many persons think highly of the prussic acid, as a remedy for the paroxysms of coughing. But this is a gigantic remedy to employ in such young subjects. If you give it at all, you must give it in very small quantities, and watch its effects. The artificial tincture of musk is another substance which some have found useful. Three or four minims of it may be given in the outset, and the dose increased till some sensible effect is produced; and then the dose that has been so reached should be persisted in without farther augmentation. I have been assured, by a most intelligent practitioner, that he had got considerable credit for prescribing this medicine, after other persons, with other modes of management, had failed. Belladonna, digitalis, cantharides, are other, and, *I think, hazardous* remedies. Safer drugs recommended, and, for aught I know, equally efficacious with these poisons, are cochineal, oil of amber, musk, camphor, and the meadow narcissus. Of late the carbonate of iron has been greatly praised by some of the continental physicians.

External applications are also much in fashion in the treatment of hooping-cough. Frictions to the spine and to the chest; and probably as counter-irritants, they are of some service. The tartarized antimony is the least innocent of these applications. It will often cause foul and very troublesome sores upon an adult skin: and till I am better advised than I am at present of its certain efficacy as a remedy for hooping-cough, no one (however authorized professionally, *ludere corio humano*), should rub it upon a child of mine. Mothers are many of them fond of using Roche's Embrocation for the Hooping-Cough. This (Dr. Paris tells us) consists of olive oil, mixed with half its quantity of the oils of cloves and of amber.

Such is the plan of management which you will do well to enforce—and such are the expedients which you may, if you please, make use of as auxiliaries to that plan—when the disease is *mere* hooping-cough. But when it becomes complicated with symptoms of inflammation within the chest, or with head symptoms—(and for such symptoms you must jealously watch)—then you must employ antiphlogistic *remedies* (in addition to the antiphlogistic *regimen*) adapted to the circumstances of the case. Now we know that the *bronchi*, or the *lungs*, are affected with inflammation, when we find that the child has *fever*, and that there is

permanent dyspnœa between the paroxysms of spasmodic cough. In such a case we must have recourse to the treatment required in such inflammation: leeches to the surface of the chest, bleeding even from the arm, if the child's age and strength will warrant it, tartar emetic, small doses of nitre, the warm bath, and blistering; and to these measures, modified and combined according to the particular emergency, it will be well to add small and repeated doses of mercury: of the hydrargyrum cum cretâ, or of calomel; the state of the bowels determining which. Some have recommended friction with the tartar emetic ointment to the *chest* in such cases: but I have the same objection to it there, in such young patients, as to the spine.

When any head symptoms come on, threatening hydrocephalus—such as squinting, convulsions, stupor—those remedies must be adopted which I endeavoured to describe to you when I spoke of that disease: leeches to the head, cold applied there, purgatives, the warm bath: but, except in very young children, I believe there is more danger of fatal *pulmonary* changes in this disagreeable, and sometimes intractable disorder, than of cerebral mischief.

Pneumonia.

I might pass, by a very natural transition, from the consideration of whooping-cough, to that of *spasmodic asthma*. But this last complaint is found to exist in connexion with *various* organic changes within the chest, few of which have yet been treated of in these lectures. I shall therefore postpone what I have to say respecting asthma, till I have gone through some other thoracic diseases. And I now proceed to *pneumonia*, or inflammation of the *substance of the lungs*. Questions have been raised as to the precise part and texture in which the inflammation begins; and to these questions I may briefly advert as we go on: but I hold that in pneumonia *all the textures* composing the pulmonary substance in the part inflamed are involved in the inflammatory process.

Now of pneumonia it is especially true, that we ascertain its extent, its situation, and every step of its progress, by means of the ear. All the symptoms that give us the most sure information respecting the nature of the disease, the event to which it tends, and the remedial treatment which it requires, spring out of the actual changes wrought in the pulmonary substance itself; and these changes are disclosed to us by the method of auscultation. It is necessary, therefore, that you should understand, first of all, what those changes are which are produced by inflammation of the substance of the lungs: that you should know the morbid anatomy of pneumonia, as an indispensable groundwork for a knowledge of its pathology.

There are three well-marked, and very constant conditions of the lung, corresponding to different degrees and periods of its inflammation. I will describe them in succession, in the order in which they take place.

The first stage or condition is that of *engorgement*: all modern observers agree, I believe, both as to the nature and as to the name of this condition. The substance of the lung is gorged with blood, or bloody serum. It is of a dark red colour externally, and crepitates less under pressure than sound lung docs. We feel that there is more liquid than air in its cells. It is heavier also than natural, and inelastic, and retains, in some degree, the impression of the finger. When the engorged portion is cut, we find it red, and we see a great quantity of a reddish and frothy serum flow from it. Its consistence is at the same time diminished; it is more easily torn; more, in that respect, like the spleen; and accordingly the term *splenization* of the lung has been given to this stage of its inflammation, as hepatization has to that which succeeds it. In this stage of engorgement the mucous membrane of the small bronchial ramifications is of a deep red colour. The portions most engorged, although their specific gravity is increased, will nevertheless almost always float in water.

Now it is necessary to caution you, in the outset, against a very frequent source of fallacy in respect to this condition of inflammatory engorgement. Such a state of the pulmonary substance as I have been describing, you will meet with in half, at least, of the dead bodies which you may have to examine; and you must not necessarily infer therefrom that the persons deceased had *inflammation* of the lungs. There is almost always some degree of *mechanical* engorgement of the back part of the lungs; or of that part which has been undermost during the last hours of life, or after death; and the one kind of engorgement can scarcely be distinguished from the other by their anatomical characters alone. Andral at one time held, indeed, that if the engorged part were more friable, more easily torn or broken down under pressure than natural, that was a sufficient evidence of its inflammation: but he afterwards saw reason to change that opinion. We judge by the *situation* of the engorgement sometimes: if it be not in a depending part of the lungs, it is surely inflammatory. We judge also by the previous symptoms.

If the inflammation continues, the lung undergoes a farther alteration, and presents the following characters. It is still red—externally and within: but it crepitates no longer under pressure; and it sinks in water: it contains in fact no air. Its cut surface presents sometimes a uniform red colour;

sometimes a slightly mottled or variegated appearance, produced by an intermixture of specks of the black matter of the lung, and of the interlobular cellular tissue, which is less red than the other parts, and more than naturally obvious to the sight: but the spongy character of the organ is lost; it is evidently solid; and the cut surface very much resembles the cut surface of the liver: hence Laennec, and after him most other writers, have applied to this altered condition of the lung the term *hepatization*. There still flows out, under pressure, from the surface, when a fresh incision is made, some red fluid, but it is much less in quantity than in the former degree; and it is not foamy; and if the surface be gently scraped with a scalpel, you may often perceive in the red fluid so collected some traces of a thicker and yellower matter, the first indication of commencing suppuration. The hepatized lung is denser and more solid than before, but it is also more friable: more easily crushed and broken: and this results from the softening of the cellular tissue which holds its component parts together.

If you tear a portion of hepatized lung, and examine the torn surface with a magnifying glass, the pulmonary tissue will appear to be composed of a crowd of small red granulations, lying close to each other. These are, I presume, the air vesicles, clogged up, thickened, and made red, by the inflammation. Of course as no air is contained in the lung in this stage of the inflammation, supposing the whole lung to be involved in the disease, it does not collapse when the thorax is laid open: and therefore it has the appearance of being increased in bulk. It is swelled, in fact—just as other inflamed parts are swelled—by the congestion of its vessels, and by the effusion of blood, or of some of the constituent parts of the blood, into its hollows and interstices. The marks of the ribs are frequently visible on the surface of the distended lung. The texture of the lung in this condition is sometimes so rotten, that a moderate degree of pressure between the fingers will suffice to reduce it to a state of pulp; and this diminution of consistence has made Andral quarrel with the term *hepatization*: and he proposes to call this second stage of pneumonia, red softening, *ramollissement rouge*. All this is very unimportant, provided that you recollect the sense in which either nomenclature is employed. But as Laennec and Andral are both great authorities, and both have their disciples in this country, it is well that you should understand their language.

I have been speaking of pneumonia as it is apt to attack the whole, or the larger portion, or a considerable portion, of the lung on one side: but it is a curious circumstance that the changes I have been describing are

sometimes exactly limited to certain of the pulmonary lobules: and this state is called, accordingly, *lobular pneumonia*.

In a degree still farther advanced, the pulmonary tissue, dense, solid, and impervious to air, as in the last stage, undergoes an alteration of colour: it presents a reddish yellow, or a straw, or drab, or stone colour; or it is of a greyish hue, sometimes mottled with red, or with the black pulmonary matter. The little granulations which I just now mentioned are whitish or grey, instead of being red: and the texture of the lung is still more rotten and friable than before. It is full, in fact, of puriform matter, which is sometimes so abundant that it oozes out plentifully when incisions are made into the lung: or it may be made to exude by gentle pressure. The grey pus shows itself upon the cut surface in the form of minute drops. The more the pulmonary texture is soaked or drenched with this fluid, the softer and more friable it becomes. When crushed between the thumb and fingers it is reduced to a yellowish grey pulp, exactly like the fluid itself, only rather more consistent. And by gently forcing the finger into any part of the parenchyma in this state, a small cavity may be made which soon fills with pus, and which might readily be mistaken for a recently formed abscess.

Laennec has called this third stage of the process of inflammation in the lung, *grey hepatization*, or *purulent infiltration*. Andral denominates it *grey softening—ramollissement gris*. In fact, it consists in *diffused suppuration* of the pulmonary texture. And it is a very remarkable circumstance, and one which the researches of modern times have brought to light, that inflammation of the lung, going on to suppuration, does not lead to the formation of a circumscribed abscess, as it does when it affects the cellular tissue, or the parenchymatous tissue, in other parts of the body. Abscess of the lung used to be spoken of as a very common thing; but it is a very rare thing. In several hundred dissections of persons dead of pneumonia, made by Laennec during a space of more than twenty years, he only met with five or six collections of pus in the inflamed lung. Once only did he find a *large* abscess of that sort. Once only has Andral seen a real abscess of the lung form as a consequence of pneumonia. You may find collections of pus in the lungs sometimes occurring in connexion with the inflammation of veins. Several instances of that kind have happened very recently in patients who have died in the Middlesex Hospital. But these are not true cases of pneumonia. I need scarcely caution you not to take tubercular vomicae and cavities, containing pus, for genuine abscesses of the lung. These, and the phlebotic deposits of pus, are not *exceptions* to

the general statement: they arise from different forms of disease: and you will find a circumscribed collection of pus, surrounded by hepatised lung, as a consequence of pneumonia, an exceedingly rare event.

Can we account for this in any way? I do not know that any satisfactory explanation of the fact has ever been offered. But I would submit to your consideration what has occurred to my mind on this subject. When I was speaking of inflammation in general, I pointed out to you the remarkable influence which the presence of atmospheric air in contact with the inflamed part has in accelerating, or determining, the event of suppuration. In a recent cut, the admission or exclusion of the air to the cut surface will make all the difference between the adhesive and the suppurative inflammation; and so in other cases which I then mentioned, and will not now trouble you by repeating. Now it seems to me that the same principle obtains in inflammation of the lung. First, there is an effusion of serum and blood, then of lymph and blood; but the air, passing into the surrounding sounder tissue, and mingling for a time even with the inflamed portion itself, causes the suppurative process to supersede the adhesive; and so no wall of circumvallation is formed by the coagulable lymph, as is the case in cellular tissue which is not accessible by the air. Whether this be a sufficient explanation of the *fact* (all explanations being the resolving a given fact into a certain class of other facts better understood); I say whether it be a reasonable and satisfactory explanation, you will judge: at any rate it may serve to impress upon your memory that fact which it endeavours to elucidate.

Gangrene is sometimes, but very seldom, the result of acute inflammation of the lung. It is almost as uncommon as the formation of an abscess. Yet it certainly does now and then occur, as a consequence of acute inflammation of the pulmonary substance. It is somewhat more common (though under any shape rare) as an independent and primitive affection. Sometimes it occupies a large portion of the lung, and is uncircumscribed; and sometimes it is more limited. The colour of the part, which has thus perished under inflammation, is dark, of a dirty olive, or greenish-brown colour. The gangrenous portion is moist and wet; sometimes of the consistence of the engorged lung; more commonly softer, and even diffuent; and it stinks most abominably. This horrible odour is in truth, during life, the most distinctive character of gangrene of the lung; and it sometimes renders the room in which the unhappy patient is lying, scarcely endurable. I should have stated before that the puriform infiltration of the third stage of pneumonia is attended with no fœtor.

There are some other points, connected with, or learned from investigating, the morbid anatomy of pneumonia, which I may as well take this opportunity of telling you, before we go on to consider the symptoms, physical and general, of that disease.

There are two lungs, just as there are two tonsils, and two eyes; and in the one case as well as in the other, inflammation may affect both organs at once, or it may affect one of them alone. Technically speaking, pneumonia may be either double or single. Again, the inflammation may occupy a part of one lung, or the whole of it: in other words, it may be partial or general; but it does not affect all parts, or both sides, indifferently or capriciously. In the first place, it is (why I know not) greatly more common on the right side of the body than on the left. I will give you some statistical statements collected by Andral, in respect to this point. Of 151 cases of pneumonia, noticed at La Charité, 90 were of the right lung alone; 38 only of the left alone; 17 of both sides at once; and in 6 the situation was uncertain. He was at the pains of collecting the particulars of 59 other examples of pneumonia, from different authors, so fully described as to leave no doubt about the nature and situation of the disease. Among these, the inflammation existed in the right lung alone in 31 patients; in the left alone in 20; and in both sides at once in 8. Hence, taking both series of observations together, we have 210 cases of pneumonia; and there were 121 in which the right side was solely the seat of the disease; 58 in which the left; 25 in which the pneumonia was double; and 6 in which its seat was uncertain. So that, at this rate, pneumonia is more than twice as common on the right side as on the left; and does not occur on both sides together so often as once in eight times.

Again, with regard to the *part of the lung* which is most obnoxious to inflammation, there are remarkable differences. It is well known, and it is a very important fact in respect to diagnosis in some cases, that the lower lobes are more liable to inflammation than the upper. I speak, of course, of active idiopathic inflammation. But this circumstance, much insisted on by Laennec, and quite true in the main, has perhaps been somewhat exaggerated. I have not had leisure to frame any numerical statement of the cases that have come under my own observation, but the general impression which they have left upon my mind is in favour of the correctness of Laennec's statement—that pneumonia generally commences in the lower lobes, and spreads upwards frequently to the superior lobes. But I may adduce Andral's statistical representation in respect to this question also. Of 88 cases of pneu-

monia, he found that the inflammation affected the inferior lobe 47 times, the superior lobe 30, and the whole lung at once, 11.

Inflammation of the bronchi constantly accompanies inflammation of the parenchyma. The mucous membrane presents a red colour both in the large and in the small branches of the air passages. And when a single lobe is inflamed, it has been observed that the redness of the mucous membrane existed in those bronchial tubes alone which were distributed to that lobe. You may have bronchitis without pneumonia; but pneumonia without a corresponding extent of bronchitis is perhaps never seen.

The majority of cases of pneumonia are attended also with a degree of inflammation of the investing membrane of the lung: there is some pleurisy. So frequently indeed is this the case, that certain writers, Andral among others, call the disease by the compound name of *pleuro-pneumonia*. However, pneumonia may and does *sometimes* occur without any concurrent pleurisy. Of the latter complaint I must speak by itself; and I merely notice now the frequent combination of the two—the occurrence of a slight degree and extent of pleuritis in most cases of pneumonia—that you may the better understand some of the general symptoms of pneumonia.

Auscultatory signs.—Now such being the changes which the lungs undergo when inflammation affects the pulmonary texture, we may next enquire what signals of its existence the inflammation holds out; and how far we, not having the power of *seeing* what is going on within the cavity of the thorax, may nevertheless ascertain the important processes which are there transacted.

If the ear be applied to the surface of the chest, with or without the intervention of the stethoscope, and the portion of lung subjacent to that surface happen to be in the first stage of inflammation, that of engorgement, what does the lung, so suffering, *say*? what audible notice does it give of its morbid condition? Why it speaks very plainly. You hear a peculiar crackling sound; the smallest and finest possible kind of crepitation: which has been happily illustrated by saying that it resembles the multitudinous little crackling explosions made by salt when it is scattered over red-hot coals. Andral has another resemblance for it, and not a bad one; he says the noise is often like that which is produced by rumpling a very fine piece of parchment. Dr. Williams observes that a pretty correct idea of this sound may be obtained in a ready way, by rubbing between the finger and thumb a lock of one's own hair, close to the ear. Laennec calls this *crepitant rhonchus*: I would speak of

it as *minute crepitation*; or the *crackling of pneumonia*. This may be heard in a very limited spot in the beginning. And what an important sound it is! “It is a direct symptom, having immediate reference to the structure of the part. And (says Dr. Latham) if we consider what the part is, and what the disease; the part the lungs, and the disease inflammation: we cannot too highly value this single symptom (simple and mean as it may seem), which gives the earliest and surest intimation that such a disease has begun, as tends to disorganization, and the inevitable loss of life, unless quickly arrested by its counteracting remedy.”

At first, when you catch the inflammation in its earliest stage, this minute crepitation is heard mingling with the ordinary vesicular breathing. It announces *commencing* engorgement of the part. It obscures a little the natural sound of respiration, but it does not yet entirely cover it. As the inflammation advances, the crackling becomes more and more pronounced, and at length it totally supersedes the respiratory murmur in that part. So long as the natural vesicular breathing prevails over the crackling, we may conclude that the inflammation is slight: and if the crackling should, in its turn, become predominant, if it should ultimately mask the murmur of respiration entirely, that infallibly denotes the progress of the pneumonia, and teaches us that it tends to pass from the first into the second degree. But the crackling sound does not *long* remain in any part. As the case proceeds, the sound is less and less heard, and at length is not heard at all, in that spot; and it may be succeeded by one of two very different things. Its place may be taken by the natural respiratory murmur again. When this is so, it denotes the *resolution* of the inflammation. But the crackling may cease, and either no sound at all be heard in its stead, or another morbid sound which I shall presently describe: and this teaches us with absolute certainty, that the disease is become more severe and serious; that the lung is becoming, or has become, *hepatized*.

Let us enquire, for a moment, before we go any farther, what is the nature and the seat of this minute crepitation, so characteristic of the commencement of pulmonic inflammation. With respect to its *seat*, I apprehend, there can be no question. It proceeds from the very smallest ramifications of the bronchi, and the air-vesicles themselves. The common opinion is, and such, I confess, is mine, that the sound is the same in cause and kind, only different in degree, with the large and small crepitation described in a previous lecture: that it results from the passage of air through liquid; from the formation and bursting in quick succession of a multitude of little air bub-

bles. The bubbles are necessarily minute, for they are formed, and they explode, in very slender tubes. This is Andral's view of the matter. Laennec does not appear to have formed very clear notions on the subject. But a different explanation has been offered by a well known and able writer on the auscultatory signs of disease, in this country: I mean Dr. Williams. He holds that the distended blood-vessels, and the interstitial serous effusion, press upon the minutest bronchial ramifications, and obstruct, without wholly preventing, the passage of the air through them: that these small tubes are lined by a viscid secretion, such as is expectorated, and such as I shall have to describe: that the sides of the tubes stick together in consequence of the presence of this viscid matter; and that it is the separation of these adhering sides by little portions of air which successively pass in and out, that gives rise to the characteristic sound. However, what it is important to remember is, that the crackling sound proceeds from the minutest divisions of the air-tubes, and from the ultimate vesicles of the lungs.

Sometimes, I say, when this crackling ceases, the ear, applied to the corresponding surface of the chest, feels it heave up in inspiration, but catches no sound at all. Much more commonly, however, a *new* sound reaches the ear. It is not the vesicular rustle; it is not the minute crepitation: but a whiffing sound is audible, like that produced by blowing through a quill. Little gusts of air are puffed in and out; most distinct, often, at the termination of a slight cough or hem. This is the sound to which the term *bronchial respiration* has been given: and the name expresses well the fact. I mentioned before that in the healthy state we do not hear the air pass through the larger bronchi during inspiration and expiration: the sound doubtless is made, but it is obscured and hidden by the smooth rustle of the vesicular breathing, which comes from the spongy lung surrounding the larger divisions of the bronchi, and intervening between them and the ear. But that spongy structure is now filled up. The hepatized lung admits air to pass through the larger bronchi, which are still patent, but it admits none into the vesicles and smaller tubes. It crepitates not when pressed between the thumb and finger: in fact, it is converted into a solid substance, and conducts the sound, in the living body, as any other solid substance might do: and therefore the whiffing, blowing, gusty sound of the breath, as it enters and departs from the larger bronchial tubes, which still remain open, is conveyed to the ear, and *bronchial respiration* is heard. At the same time, and in the same place, another auscultatory phænomenon generally

arises, and admits of a similar explanation. The *voice* of the patient descends into the pervious bronchi, and is conveyed to the ear of the listener through the solid lung: and it is quite altered by that circumstance. The tone of it is modified; it sounds like the voice of one speaking through a tube. It is totally different from the same voice heard through the healthy lung at the corresponding point on the other side. It approaches in distinctness and quality, but it does not reach, the sound heard in speaking when the stethoscope is placed over the trachea. A humming and muttering are audible, but the words are not distinctly articulated into the ear. It is hard to describe these things in words. Three minutes, at the bed-side of a patient in whom the bronchial breathing and the bronchial voice were tolerably well marked, would put you in possession of them for ever. They are striking sounds; requiring no fine tact to distinguish; and exceedingly informing sounds. But I must resume this subject when we meet again.

CASE OF DIABETES MELLITUS:

WITH OBSERVATIONS.

To the Editor of the Medical Gazette.

SIR,

IF you think the following case sufficiently interesting for publication, perhaps you will be good enough to give it a place in the pages of the GAZETTE.

On March 4th, 1841, I was applied to for relief by George Tanfield, æt. 35, married, a bricklayer, who complained of having felt himself unwell for the last five or six weeks, during which period he had been getting gradually thinner; has had extreme thirst, and a constant desire for cold drinks, principally cold water, which he has drunk in large quantities; and has been unable to retain his urine. He feels weak and languid; is much troubled with flatus, and not able to sleep; attributes his complaint to cold, from working in a damp cellar. He is a tall, thin man, with an anxious expression of countenance; the skin of a dirty yellow colour, dry, and rough to the touch; the tongue dry, brown, and furred; the pulse 90, and rather hard; complains of a sweet taste in his mouth, with a sensation of nausea and sickness, but has never vomited; little or no appetite for food; no pain on pressure at the epigastrium, but complains of a dull heavy pain in the loins; neither pain or uneasiness

in the chest; no cough; his urine is of a pale straw colour, with a faint sickly odour of violets, and sweet to the taste; bowels constipated. Has always been a sober steady man, and lived regularly.

℞ Pulv. Rhæi, gr. xij.; Potassæ Sulph. ʒss.; Pulv. Aromat. gr. vj. M. fiat pulv. st. sumend.

To have twelve ounces of blood taken from the loins by cupping glasses, and to take the following:—℞ Opii Pur., Pulv. Ipecac., Hyd. Chlor. aa. gr. j.; Pil. Aloes, c. Myrrha, gr. vj. M. fiat pil. ij. hor. som. maneque sumendæ.

℞ Ammon. Sesquicarb. ʒii.; Mistur. Camphoræ, ʒviiij.; Tinct. Card. c. ʒiv.; Syr. Aurant. ʒiij. M. fiat mist. cujus capt. ʒj. ter in die.

For diet—to have hard biscuit boiled in “old milk,” for breakfast and supper; mutton chop, with bread or biscuit, for dinner; and as a beverage, to drink in small quantities plain chicken broth, or “old milk” with lime water.

March 6th.—Feels a little easier; the bowels have been freely opened; less flatus; thirst urgent; tongue dry; pulse quick, but not hard.

To continue the medicines. To have the cupping glasses applied; and eight ounces of blood taken from the loins.

8th.—Feels much the same; tongue and skin still dry; thirst not quite so distressing; bowels open; pulse quiet.

To have a blister applied over the loins, 12 inches by 6. To continue the medicines and drink as before.

10th.—Complains of the medicines disagreeing with him, and does not feel quite so well; pulse 84, regular and soft; tongue and skin still dry.

To discontinue the medicines. To have a warm sulphur bath every alternate morning, and to take the following:—℞ Hyd. c. Creta, gr. viij.; Pulv. Doveri, gr. x. M. fiat pulv. hor. som. maneque sumend. To have a dose of castor oil when necessary.

14th.—Feels much better; tongue moist and clean; pulse 80, regular; thirst considerably less urgent; perspires freely during the night; skin soft and moist; sleeps well.

To take the powders thrice a day, and to continue the bath.

20th.—Continues to improve; tongue

moist; thirst still less urgent; feels weak and faint after the bath, from perspiring copiously; bowels open.

To continue the medicines, and to take beef-tea.

April 1st.—Still improving; pulse 74, but rather weak; tongue clean and moist; skin smooth and moist, and has lost much of its dirty yellow hue; thirst abating considerably; appetite good, but not voracious; has only passed his water thrice during the last 24 hours. To take the following:—

℞ Infus. Cascarill. ʒviiij.; Tinct. Card. c. ʒiv.; Tinct. Lavand. ʒij.; Sp. Æther. c. ʒiss. M. fiat mist. Sumat. ʒj. ter in die. ℞ Hyd. c. Creta, gr. x.; Pulv. Doveri, gr. xij. M. fiat pulv. ter in die sumend.

10th. — Still continues to improve, and has been able to walk out a little; tongue clean; bowels open; pulse 70, regular.

To have two ounces of brandy daily, to continue his medicines and diet as before, and to take the sulphur bath twice or thrice a week.

I will not occupy more of the GAZETTE, nor tire your readers, by detailing further the rough report of this case; but I may briefly state that this plan of treatment, regulated according to circumstances, was steadily pursued until the 1st of May, when I was obliged (from sickness) to discontinue my attendance. At that time his thirst had completely left him; his tongue was clean; pulse stronger; and the urine diminished to its natural quantity. From the 10th of March to the 1st of May he had taken—

Pulv. Ipecac. c. ʒj. ʒij.; Hyd. c. Creta, ʒvij.; and of opium, in occasional doses, ʒij. gr. ix.

And, what is rather remarkable, he never had soreness of the mouth, spongy gums, nor the slightest degree of ptyalism.

In the subjoined table I have noted the quantity of fluid taken, and the quantity of urine voided, with its specific gravity on the days mentioned.

The weight of the patient was, on March the 5th, 120 lbs.; on March 17th, 117 lbs.; 29th, 115 lbs.; April 13th, 116 lbs.; and on April 27th, 115 lbs.

1841.	Drink in pints.	Urine voided in pints.	Specific gravity.
March 5	12	14	1.047
7	10	14	1.048
9	9	12	1.050
11	9	12	1.056
13	9	13	1.059
15	8	12	1.050
17	8	13	1.047
19	5	9	1.040
21	6	10	1.040
23	5	9	1.039
25	5	8	1.037
27	5	9	1.038
29	5	9	1.038
April 1	4	8	1.037
3	4	6	1.036
5	4	6	1.036
7	4	5	1.036
9	5	6½	1.035
11	4	4	1.036
13	4	3½	1.033
15	4	3	1.031
17	3	3	1.031
19	3	3	1.030
21	2	2½	1.026
23	2	2	1.025
25	2½	2	1.023
27	2	2	1.023
29	2	2	1.023
May 1	2	2	1.023

On one occasion (March 9th) I obtained of solid saccharine extract, from twelve ounces of the urine, ʒj. 3vj. On another (March 21st), ʒiss. of solid extract; and a smaller quantity in April. The urine did not contain either urea or lithic acid. The mode of analysis recommended for the detection of urea by Dr. Prout, Professor Christison, and Dr. Ure, was successively employed at various times, but without success: I was never able to obtain a trace of its presence.

I was the more particular in conducting and repeating the experiments, as Professor Christison has obtained a large proportion of urea in diabetic urine (see Cases of Diabetes, by Professor Christison, in Edinburgh Monthly Journal of Medical Science.)

It is probable that the secretion of urea in diabetes is not suppressed, but that it is converted into sugar by the peculiar diseased state of the organs of assimilation and secretion.

Dr Prout says, "the relation which exists between urea and sugar seems to explain in a satisfactory manner the phenomena of diabetes, which may be considered as a depraved secretion of sugar."

The blood I did not examine.

The Ammon. Sesquicarb. has been lately recommended by Dr. Barlow, in his ingenious and talented paper (in No. XI. of Guy's Hospital Reports.) I have long known ammonia employed as a therapeutic agent in the treatment of diabetes, but have not found it answer my expectations, after repeated trials of its use; it was recommended some years since by Dr. Brisbane, and Dr. Watt (see Cases of Diabetes), and lately Dr. Copland (Dict. Pract. Med., part ii. p. 515) says, "It (volatile alkali) may, moreover, counteract the tendency to the formation of saccharine matter, and promote the animalization, and assimilation of the chyle, as well as the formation of urea."

So far as my experience goes, I have generally found vegetable articles of diet, and the use of malt liquors, disagree with diabetic patients, and increase the quantity of urine, as well as its specific gravity.

Sydenham says (Answer to Dr. Brady, sec. 35), "the patient's diet should be food easy of digestion, as veal, mutton, and the like; he must forbear garden herbs, and fruits of all kinds, and drink Spanish wine at meals."

The beneficial effect of the plan of treatment, in this case, was very clear, in not only restoring the patient to a better state of general health, but in reducing the quantity and the gravity of the urine in so short a period of time, which in the above case was so considerable (taking the average quantity of urine voided by adult persons in good health in this country, to be about forty ounces in the twenty-four hours, and of the average specific gravity of 1.020.)

I do not cite this case as a successful one, nor the treatment as novel and specific; but merely to state *that* plan, out of the many recommended, I have found most useful from experience, after a practice of thirty years.

The obscure nature of diabetes, the little that is known of its treatment, and the importance of the subject, will perhaps be some apology for trespassing so much on the pages of the GAZETTE.

I am, sir,

Your obedient servant,

WILLIAM LAMBERT,

Senior Surgeon of the Thirsk Dispensary.

Thirsk, Yorkshire,
Sept. 15th, 1841.

SCHIRROUS PYLORUS—DEATH— NECROTOMY.

BY MR. WILLIAM PROCTER,
Clinical Assistant, Westminster Hospital.
(*For the Medical Gazette.*)

MARY SHAW, æt. 43, was admitted, 15th June, 1841, into Westminster Hospital, under the care of Dr. Burne. Until three years since she enjoyed good health; at that time she had a severe attack of scarlatina, with low fever: the debility consequent on this was lengthened by a cold taken during recovery. Shortly after complete convalescence she began to feel pain and uneasiness in the stomach, after taking food, followed by nausea and heart-burn; which symptoms slowly increasing, tenderness in the epigastrium supervened; and as the disease increased in severity and advanced, every thing taken into the stomach was rejected some little time afterwards; vomiting took place at intervals (without any apparent exciting cause) of matters having different appearances; sometimes a green mucus; at others, that peculiar fluid like coffee grounds, often mixed with undigested food. She was not able to take any thing solid—sago, arrow-root, and nutritive articles of that kind, constituted her diet; but even these she was able to bear only in small quantities. In this state she applied to Dr. Richardson, who, having assured himself of the nature of her disease, sent her into the hospital.

At the time of her admission she was extremely emaciated: the eyes sunk, the cheek-bones prominent, and the whole face lean and linear; the skin was dry, and imparted a rough sensation to the touch; the tongue was dry and furred; the bowels (as they had been all along) very costive; pulse 70, small as a thread, and feeble. She vomited usually about an hour after taking food; and attacks of vomiting, more particularly during the night, still recurred; the matter brought up, being a dark-coloured fluid, generally mixed with matters previously taken into the stomach. Neither at this time, or at any other, was gastric pain experienced; nothing beyond an occasional and disagreeable feeling of distension.

On inspecting the abdomen on several occasions, the outline of the stomach (being then distended) was visible and

distinctly traceable; the thin abdominal parietes being elevated, and bulging, in the shape of the stomach, across the epigastric and umbilical regions. Placing the hand on this latter region, to the right of the linea alba, a tumor, the size of half an orange, was clearly palpable, and more or less moveable; its situation was found to vary in some degree, according as the stomach was distended or contracted.

The question that organic disease existed being indisputable, means were employed to allay the vomiting, which was at this time the most urgent symptom; and to support the strength, as far as was possible, by diet of milk and sago, with beef-tea, taken in small quantities, and frequently, in order that the stomach might not be suddenly overloaded. The bowels were regulated by common enemata; and, as a palliative, she was ordered—

Mistur. Creasoti, ʒj. t. d.

28th.—She has been pursuing the above treatment up to this time; and though there is less vomiting and uneasiness of the stomach, no decided improvement is perceptible; indeed she appears to grow weaker daily. Dr. Burne ordered the mixture to be continued, and an enema of milk every morning, and of beef-tea, egg, and flour, twice a day, with a view to nourish the patient.

July 14.—Has continued the preceding plan, with some benefit; is no weaker than on her admission; vomiting on the whole less, though more frequently, and often in the night.

20th.—The stomach continues more settled; she is able to pursue the plan prescribed by Dr. Burne, and to take a light pudding daily; notwithstanding this, no decided improvement is perceptible. The vomiting returns if the bowels are not open, and emaciation goes on.

28th.—Is gradually getting weaker, and there is more emaciation. Great care being observed, the stomach is induced to retain her food. The attacks of vomiting return frequently during the night, and soon after taking any solid substance, as bread, which was once or twice attempted. She requires the use of aperient (in addition to the nutritive) enemata, in order to relieve the bowels.

Aug. 14th.—Soon after the last report her memory began to fail, and she appeared lost when asked a question. Is much worse in all respects, being able to take scarcely any food; fluid, like coffee grounds, continues to be vomited. For the last three days the bladder required emptying by the catheter; violent hiccough supervened. Her remaining powers failed rapidly, and in the course of the evening she expired.

Post-mortem examination thirty hours after death.—The whole body emaciated, and attenuated to the utmost degree. The abdominal parietes being reflected, a tumor, the size of a small apple, rather flattened, was seen occupying the pyloric extremity of the stomach, and lying in the umbilical region. The position of the stomach was somewhat oblique; the lesser curvature looking to the right side, and passing transversely downwards from the left hypochondriac to the above-named region. The stomach itself was unnaturally large, capable of holding five pints. On laying it open, the cardiac parietes were thin; the mucous membrane soft, and marked with two or three particles of minute dotted vascularity. The tumor completely encircled the pylorus; and, on cutting through it, a rough grating sensation was communicated to the scalpel; the peritoneal coat around it was entire, but involved in the general thickening. Internal to this the tumor was pale, and its extent well defined by a hard white line of cartilaginous consistence. The proper schirrosity occupied the place of the muscular and submucous tissues: this non-analogous structure, extending all round the pylorus, was more than half an inch thick, of a yellowish-white colour, intersected with dense white lines of a fibrous aspect; the interstices filled up with a whitish hard concrete substance. The pylorus itself was diminished in size, so as barely to allow the passage of a quill within it; in several places the mucous membrane was ulcerated. The duodenum was of natural calibre, and otherwise in a healthy state. The liver was atrophied, but healthy in structure. The omentum appeared of increased vascularity. The other viscera were quite healthy; and no schirrous induration occupied the intestinal canal.

August 31, 1841.

ACCIDENTAL RUPTURE OF THE UTERUS.

ESCAPE OF ONE OR MORE FŒTUSES INTO
THE ABDOMINAL CAVITY.

To the Editor of the Medical Gazette.

SIR,

If you deem the annexed case worthy of a place in your valuable journal, you will much oblige me by its insertion, affording, as it does, ample evidence how much nature is capable of effecting, under circumstances of so extraordinary and dangerous a nature, and furnishing another striking, though comparatively rare, example of the extensive lesions the peritoneal cavity is capable of sustaining with impunity.—I am, sir,

Your obedient servant,

HENRY K. RANDELL,
M.R.C.S.

Sept. 14, 1841.

Mrs. —, of this village (Acle), ætatis 35, of pale aspect, but plump appearance, sent for me in the evening of the 3d of April, 1841, in consequence of her having been attacked during the day with pain in the lower and fore part of the abdomen, recurring at intervals of about a quarter of an hour. She stated that she believed herself to be about five months advanced in pregnancy, and had felt the motions of the fœtus about three weeks previously. She had passed water repeatedly since the commencement of pain, but there had been no escape of any other fluid from the vagina. The pulse was 92; tongue a little white, and she was thirsty. The bowels had not been relieved for three days, and she was naturally very costive. Whilst sitting by her bed-side she experienced a recurrence of pain; and placing my hand upon the abdomen, I felt immediately a decided uterine contraction.

There was a good deal of tenderness generally about the whole abdominal surface, which she said she had felt for some time. I remarked to her also the extreme enlargement of it for a person no further advanced in pregnancy than she had stated herself to be; and in reply she observed, that she was not exactly certain, for she had been taken very unwell about six weeks previously, and had been once slightly

so since that period, and that ever since she had felt altogether very strangely at times. She was certain, however, she had not felt the child until within the last three weeks, and then but very faintly. Considering it probable that premature labour was about to commence, I merely ordered her to keep quiet in bed, and to take an ounce of castor oil immediately; and if it did not relieve the bowels by the morning, to repeat the dose, and likewise to foment the abdomen by warm moist flannels, and to acquaint me in the event of a recurrence of pain.

4th.—She passed a restless night until near morning, when, after copious relief from the bowels, the pain left her, and she fell asleep for a few hours. There was, however, some little feverish excitement remaining, to remove which I ordered two scruples of the citras potassæ every four hours, and directed her to take only broth, tea, and gruel, in the way of diet, &c.

Towards evening she again complained of pain, but it was of a different kind, and occupied only the left hypochondrium, and was of a sharp stitchy character, more like that arising from intercostal rheumatism. The quiet state of the pulse, and abatement of the feverish state in which I found her in the morning, convinced me it was not inflammatory but rheumatic; and, upon inquiry, I found that the door, which is close to the bed side, was kept open during the time the attendant had been fomenting the abdomen on the previous night: the weather also being very cold, and no fire in the room, it left no doubt in my own mind that it arose entirely from this cause: I therefore merely ordered her an anodyne draught to be taken immediately, and the side rubbed twice a day with this embrocation—

Liquor Ammon. Fort., Tinct. Opii, aa.
ʒij. ; Lin. Camph. c. ʒj. ft. embrocatio.

On the 5th she was better, had passed a good night, and was free from pain. I therefore merely ordered her to continue the powders and embrocation.

In the evening, however, she again sent for me in consequence of an increase of pain, which had resumed the periodical character it first had; and therefore, to satisfy my mind fully, I proposed an examination per vaginam, to which she assented. On the closest

investigation, however, I found not the slightest dilatation, or discharge; but the os tinæ appeared as small and as rigidly contracted as in the virgin state; I therefore simply ordered her to repeat the anodyne draught as before, to use poppy fomentations, and, as the pain was seated completely on the left side, afterwards to apply a blister.

On the 6th she was much better. I merely continued the powders. The blister had entirely removed the pain. The bowels, however, had not been relieved since the 4th; I therefore requested her to repeat the castor oil.

From this time she daily improved until the 10th, when, in the night, she was suddenly seized with hæmorrhage from the uterus, accompanied with occasional small grinding pains, which continued from 2 o'clock A.M. until 8 A.M., when both appeared as suddenly to cease. She stated, however, that, although she felt in every respect better, she had been very faint during the night; and, notwithstanding this feeling had in a great degree gone off, yet she still felt very "oddly." This determined me to make another very careful external examination, for I entertained some suspicion, from the altogether unusual character of her symptoms, that there was something extraordinary in the case, which I could not satisfactorily account for. On doing so I was instantly and very forcibly struck with the very plain manner in which I could now feel the fœtus, its knees, elbows, &c. and below it apparently the enlarged uterus very distinctly. The whole abdomen, too, appeared enlarged since my first examination, and the child appeared to lie transversely across it, principally above the umbilicus. I merely ordered her to keep quite quiet in bed until I should see her again, to live on a light spare diet, and to take a sixth part of the following mixture every four hours:—

Potass. Nitrat. ʒij. ; Tinct. Opii, gr. xxx. ;
Infus. Rosar. ʒviij. ft. mistura.

In the evening of this day the pain abated, and she felt altogether better.

11th.—Has passed a good night, and had no return of pain or hæmorrhage, I now made another careful examination both externally and internally, and the result was that I became convinced, from the very plain and un-

usually distinct manner in which I could define the head, limbs, and trunk, of the fœtus, its ribs, &c. that it was a case of extra uterine fœtation. The os tincæ was still closed, and its neck appeared so much contracted, as to render it extremely tuberoso to the touch. All hæmorrhage had ceased as well as pain. The extraordinary nature of the case rendered it desirable that my own opinion should be confirmed by another's, and I therefore at once proposed a consultation. Dr. Lubbock was soon after called in, and having instituted a very minute and careful examination, he came to the same conclusion as myself, that it was undoubtedly a case of the nature I have described, and wished that exactly the same plan of treatment should be pursued, and the patient for the present left as much as possible to nature.

On the 12th there was a slight return of hæmorrhage, but no change in any other respect.

On the 13th she was much the same, and I therefore ordered ʒij. Tinc. kino, to be added to the mixture, and napkins soaked in equal parts of vinegar and water to be worn.

On the 14th the discharge had ceased, and only a small quantity of watery fluid escaped at the time of passing the urine; she therefore discontinued the napkins, and simply went on with the mixture. I had all along ordered her to be kept quite cool, and to have plenty of fresh air, to wear a loose dress, and in the day-time to repose on the outside of the bed.

She continued in this way, without any material alteration in her feelings, until the 20th, with the exception of all loss of feeling respecting the fœtus, since the last attack of hæmorrhage, and that the abdomen appeared to be more relaxed and flabby. The fœtus, too, which, if possible, was to be more distinctly felt than ever, she remarked, appeared to settle or gravitate to the most depending part, according to whichever side she rested upon; although its principal situation was still on the right side of the umbilicus, and a little above it. On the morning of this day, however (20th), she had been attacked with small grinding pains, and had passed a few coagula, mixed with what appeared to be portions of deciduous membrane. I therefore

made an examination per vaginam, and for the first time felt the os tincæ relaxed and dilated to the extent of a crown-piece, and its mouth occupied by a coagulum. On removing this, and introducing the index within its cavity, I felt, although scarcely within touch, something like the head of a fœtus. I therefore directed her to keep very quiet, to take only broth and gruel alternately, in order to support her strength, and to acquaint me as soon as the pains begin to increase. I heard no more from her till six in the evening, when, on my return from visiting my other patients, I found they had twice sent for me.

On examination at this time I found the os uteri two-thirds dilated, the fœtal head presenting, and just dipping below the superior margin of the pelvis, and that there had been a constant draining of arterial coloured blood during the day. The pulse, however was good, she had taken a good deal of nourishment, and had not once complained of feeling faint. As the pains appeared tolerably efficient, I suffered her to go on without rendering her any more than the ordinary assistance; but after waiting three-quarters of an hour, finding the head made no progress, and that the pains also began to flag, I gently introduced the vectis, and speedily extracted the fœtus, which appeared to have attained the age of seven months. But little contraction of the uterus followed, although I gave her (as is my usual custom) 35 drops of laudanum, and half an ounce of brandy, in a wine glassful of cold or tepid water, and made use of pressure and friction with my hand on the abdomen for twenty minutes or longer. On doing so, however, I still felt the fœtus in the abdomen as plainly as ever, only that it now appeared to have sunk a little lower down; and thinking it just possible that the parietes of the uterus might be extraordinarily thin in this case, so as to deceive me as to its being extra-uterine (although I believed I could still plainly distinguish the uterus by itself in the hypogastric region, only more contracted than before), I determined, as there were no urgent symptoms, to wait a little previous to my attempting to extract the placenta, as is usual with me at the

expiration of this portion of time from delivery. No flooding or any other untoward symptom succeeding, I waited for an hour and three-quarters, when, for the first time since the birth of the foetus, she suffered a slight pain; this was soon followed by others, and by gentle flooding. I immediately introduced my fingers as high as I could reach, and felt nothing but the placenta. I then gently introduced the left hand into the uterus, and still no foetus was to be felt.

Having satisfied myself, therefore, that the other child was not in the cavity of the uterus, I proceeded at once to extract the placenta, which I found partially adherent to the fundus uteri; and on separating it carefully with my nails throughout its whole extent, I found a portion of it elongated, and stretched toward the upper and back part of the left side of the uterus. On tracing this elongated portion very carefully, I found that it perforated the uterus at this part, by means of what appeared to my touch a somewhat narrow irregularly oval sort of opening, the edges of which felt contracted and tense, and which was barely sufficient to admit the index more than half-way, and beyond which I could feel nothing but what I imagined to be softened placenta. I therefore detached this elongated portion of placenta, which readily gave way on slight stretching, and removed the whole. The contraction of the uterus followed the immediate withdrawal of the hand, and consequently there was no further hæmorrhage.

I immediately placed my hand upon the naked abdomen, and could now distinctly feel the empty and contracted uterus; the foetus before mentioned in nearly the same situation; and above the situation of the iliac fossa in the left side, another substance, which gave the idea, from its irregularity, &c. of another foetus; but this, of course, was doubtful, as I could not clearly define it. The case, however, was now perfectly clear to my own mind, viz. that she had sustained, by some means or other, a rupture of the uterus, and that the foetus or foetuses had escaped from the uterus into the abdominal cavity, whilst one, and most likely that which happened to be most inferiorly situated, had remained. Or

it might be that the retained one had pursued its proper course, whilst the other or others had escaped from the fallopian tube at the first into the abdomen, if at least such a case be possible. Upon inquiry, however, subsequently, I learnt that about six weeks prior to this period, she was one day in the act of pumping from a pump, the handle of which was suspended higher than usual, and that consequently she had been obliged to use considerable exertion in order to raise the water; and, whilst doing so, she experienced a very strange sensation in her abdomen, accompanied with fainting, which obliged her instantly to come in and lie down on her bed. Very soon after she was taken unwell, with a good deal of pain and soreness, and that these symptoms continued with very little variation for nearly a week, and obliged her, from the excessive feeling of weakness they induced, to keep her bed nearly all that time. After keeping perfectly still, however, for the period I have mentioned, and taking a little castor oil occasionally, she began to mend, although she had not felt so strong ever since as she had done before, and found herself incapable of the least exertion. Such was the account she gave me.

Having gently supported the abdomen with a broad bandage, I directed her to be placed in bed, and the most perfect quietude enjoined. At the end of an hour I again visited her, and found her as comfortable as could be expected. No flooding had supervened, there had been but very slight pain, and she seemed disposed to be affected by the opiate. I therefore left her for the night, desiring I might immediately be sent for if any change arose in the symptoms.

21st.—I visited her at half-past six, and found she had slept only half an hour. She had felt but very little pain, but complained of very great exhaustion; and cold clammy perspirations. Pulse 132, and feeble: no hæmorrhage, however, but a very copious discharge of highly offensive watery fluid. There was but very little tenderness of the abdomen, and, on examination, the uterus could be felt firmly contracted, just above the pubes, and the two other foetuses as plainly as before. No urine had been passed

I ordered her to take a fourth part of the following mixture every four hours.

Ammon. Subc. ʒij.; Tinct. Cinch. Co.,
Tinct. Hyoscy. aa. ʒij.; Mist. Camph.
ʒvj. ft. mist.

At the end of a week from delivery I again carefully examined the abdomen externally, and now as plainly as ever felt the fœtus in the hypogastric region: the presence of a second fœtus was, however, no longer clearly to be detected. The lochial discharge, though irregular, still continued, but was less fœtid, and the general health was rapidly improving.

May 27th.—From the last date to the present period she has been progressively improving and gaining strength.

August 7th.—Up to the present period she has continued as well as might be expected. She still retains a more than usually blanched countenance, and is incapable of much exertion, although she walks out a short distance whenever the state of the weather and roads permit. The catamenia have returned, and are regular.

RUPTURE OF THE RECTUS FEMORIS OF BOTH THIGHS.

To the Editor of the Medical Gazette.

SIR,

MR. GRANTHAM'S case of rupture of the rectus femoris being of considerable interest, I beg leave to record one which has occurred in my practice, and which I think you will find equally so, being a double rupture of the recti muscles of the thigh; and so far analogous to the one related by that gentleman, in proving the possibility of the occurrence of "rupture of the tendon of the rectus femoris muscle, unattended with fracture, dislocation, or laceration of the adjacent parts."

In the summer of 1838, a gentleman of robust appearance for his age, 73, consulted me for chronic dyspepsia, accompanied with severe cardialgia. Two years previously he had an attack of paralysis, which left the sensibility of the left arm much impaired. He had no power of locomotion except on crutches. There was complete inability of extending the lower extremities, owing to the rupture of the rectus femoris of each thigh; a groove being left above each patella as deep as the breadth of a finger.

In the following autumn, Mr. — had a severe attack of erysipelas of the face, extending over the scalp. From this attack he recovered with great difficulty; and having visited him with Mr. Culledge, of March, his medical attendant during a long series of years, I am enabled to give the report of that gentleman, communicated to me. About fourteen years ago, when in the act of running, Mr. — fell down (forwards), and, on attempting to rise, found that he had injured the knee. Mr. Culledge was immediately called in, and found the tendon of the rectus femoris of the right thigh completely ruptured. Under the hope that reunion might be effected, he was placed in as favourable a position as could be for that purpose; but he would not allow it to remain so for one hour, nor could he be prevailed upon to do so. About four years after the above accident, while walking in his stack-yard, Mr. —'s left foot came suddenly in contact with a piece of wood, and he again fell forward, and with precisely the same consequences to the left limb. From the first accident he was compelled to use crutches; and although he possessed the power of locomotion to a limited degree, yet, upon the slightest flexure of either knee, he would at any time have fallen down without such support. No injury was done to the adjacent parts at either period.—I remain, sir,

Your obedient servant,

WILLIAM ENGLAND, M.D.

Wisbech, Sept. 18, 1841.

ACTION OF HYDROCYANIC ACID, ETC. UPON THE EYE.

To the Editor of the Medical Gazette.

SIR,

BE so good as give insertion to the following hints on the effects of hydrocyanic acid in your valuable journal.

I am, sir,

Your obedient servant,

A. TURNBULL, M.D.

48, Russell Square, Sept. 28, 1841.

It is a well-known fact that the eyes of those who have been destroyed by hydrocyanic acid for a length of time after death shew none of the usual symptoms of dimness. On the contrary, the eye is clear, and the pupil much dilated. This satisfied me that

the acid exerted a specific action upon the eye, which might be made available as a medical agent for relieving many of the diseases to which that organ is so subject.

My first experiment was undertaken in 1837, with the diluted acid, by dipping a sponge into it, and rubbing it upon the forehead for the space of a few minutes, which gave the skin a very red appearance; but the patient experienced not the least sense of heat, and the pupil was slightly dilated. I continued to use this with very beneficial effects in incipient cataract, opacities of the cornea, inflammation, amaurosis, iritis, &c. Of late I have substituted the vapour of the concentrated acid to the eye with much more decided effect, and without the slightest danger. The plan I generally adopt, is to put into an ounce-phial a drachm of the acid, and hold it in close contact with the eye, the eyelid being open, for the space of about half a minute, or until such time as the patient feels a little warmth, or the person holding the phial sees the pupil greatly dilated, and the vessels of the eye injected with blood, which is the invariable effect of the application of the acid. The patient is not sensible of pain from this peculiar state being induced, which appears to me to result from the powerfully sedative influence of the acid, thereby showing that two opposite powers—to wit, stimulating and sedative—are exerted at the same time; and thereby the uneasiness arising generally from a stimulant alone is prevented. Its great power in removing these diseases chiefly arises from the two powers being so blended, and thus enabling the eye to bear a sufficient stimulating action without injury. The person who holds the acid to the eye should be careful not to allow the patient to smell it.

The essential oil of bitter almonds I use for the same diseases. I put two drachms of water to two drachms of the oil, in an ounce-phial, and hold it in the same way to the eye as the acid; but its effects are not precisely alike. The feeling induced by the oil is soothing, and generally relieves all sense of pain, even of *tic douloureux*, without sensibly dilating the pupil, or causing much redness of the eye. I find it very useful in taking away the heat occasioned by the hydrocyanic acid,

MEDICAL GAZETTE.

Friday, October 1, 1841.

“*Licet omnibus, licet etiam mihi, dignitatem Artis Medicæ tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso.*”

CICERO.

THE RECENT APPOINTMENTS OF COMMISSIONERS IN LUNACY.

WE briefly alluded last week to the appointment of a new Metropolitan Commissioner in Lunacy; but the circumstances of the event deserve something more than a passing notice.

We should regret if we give pain to the new commissioner, by cavilling at the appointment; and yet it is impossible not to perceive, that the qualifications by which he was so much distinguished above his brethren, as to obtain the peculiar patronage of the Lord Chancellor, were in no degree professional. It is well known that, in the late contest for the office of High Steward of the University of Cambridge, Dr. Waterfield was among the most energetic in the cause of Lord Lyndhurst; and by his activity, at the same time that he gratified his own political feelings, he then rendered to that noble Lord the service which has now been rewarded by his appointment to one of the few lucrative public offices that medical men are competent to hold.

We have the less hesitation in giving this plain account of the affair, because the fact is, that the mode of appointment adopted in this case is only in accordance with the rule generally followed; the qualification most considered in the selection of the one from many persons having been only the same in this instance, as in nearly all others preceding it. To mention but the one which is most closely related to this; that of Dr. Hewett. With all our respect for that gentleman, and with the full conviction that he was really, as we said last week, “a man of strictly

honourable character, and with a mind calculated for minute and patient inquiry," yet it is certain that these were not the qualities that obtained him, from the Whig Lord Chancellor, the two commissionerships which he held. These recommendations he only enjoyed in common with many others, but who did not possess either the personal or the political claims of Dr. Hewett.

Here, therefore, are two instances in which one of the best medical appointments has been given for personal and political, rather than for professional excellence; and these two are but examples of the general rule, which is followed alike by Liberal and by Conservative Governments. Now, considering how few are the appointments conferred upon our profession, we do think it is a fair subject of complaint that such considerations should be allowed to have any weight at all in the disposal of them. Professional or general scientific merit ought to be the only ground of choice, as they are the only qualifications that deserve reward, or insure competency to the discharge of the required duties. We are sure that Dr. Waterfield himself, and his best friends, must agree with us, that he is not, of all those from whom the selection was made, the *most* deserving of it on these grounds, and that, if he had not assisted Lord Lyndhurst in his political views, that nobleman would not have shown such remarkable alacrity in taking, or to speak more strictly, in *making*, the first opportunity to assist him in his professional career; for be it known that Dr. Hewett was neither dead nor had resigned the commissionership when his successor was appointed. If, in these cases, persons selected for the sake of their politics are not unfit for the duties to which they are appointed, it is fortunate, but nothing more; there is little reason to believe that a different plan would be adopted if they were unfit; for once swerving from the right,

men are commonly, in these as in other matters, reckless of the degree of wrong which they commit.

The broad principle for which we contend is, that in all these appointments professional or scientific claims alone should be considered. There are, and always have been, men among us who have added largely to the store of knowledge by diligent investigation of disease, by laborious literary researches, by long-continued study in the sciences ancillary to medicine; there are others who have thus, or in other ways, done good present service to the public; and these, especially since they are not always, or even commonly, rewarded by the public according to their merits, should be sought out, that offices of emolument might be conferred upon them. Why is it that, in our profession, however great his love of science, a man dare not give himself up to the pursuit of scientific truths, or neglect, for any thing more worthy of his regard, the common money-seeking practice of his art? Why, but because he knows that on science he may starve? And so it is that the scientific part of medicine makes so little progress among us; that it is pursued only by stealth and in secret; the few who really desire truth for its own sake fearing lest, by a confession that they seek anything but practice, they should be deemed not practitioners, and so be cut off from the only means of obtaining a livelihood. It is for men like these that such appointments should be reserved. If they do not require more knowledge than is looked for in the present mode of appointment—if men are not to be chosen for their *special* fitness, then let science hold the place of politics amongst the qualities that are advanced as claims; let the attachment to learning be better esteemed than the attachment to party; and if the choice is to be made among those that do not best succeed in obtaining lucrative practice, let those be taken who have failed because

they have preferred to labour for truth rather than for money.

It may be said that, on the same principle, the whole system of government patronage should be overturned; for that what is true of medical appointments holds equally of legal, clerical, and all others. But the cases are very different. It may be true that, in all these cases, it is in the long run best that politics should be considered in the disposal of appointments (though, unless the *cætera* be *paria*, we should think they seldom deserved much regard); but, if it is so, it is only because the persons thus appointed for their politics have influence and interest by which they may assist in maintaining the institutions and governments to which they are attached. It is not so with physicians. Commissioners of Lunacy have no influence in general politics; they add no strength to the party of their patrons, and might safely be selected from men of any or of no political predilections.

Besides, the number of legal and of clerical, and of many other kinds of appointment in the gift of a government, is so great, that a man of merit, whatever be his politics, is almost sure of obtaining one. A lawyer, for example, can look forward with something approaching to certainty for one among the numberless appointments from judgeships to commissionerships; and, though he may neglect the practice for an unusually profound study of his profession, may feel almost sure of being rewarded by obtaining one of the posts which, though generally given to political partizans, are occasionally bestowed on merit for its own sake. But it is not so with medicine: we have no such places as those of judges, home and colonial; of commissioners, full and assistant, sitting and roving; of magistrates, metropolitan and rural; or, in short, of any of those among whom a barrister of merit may feel almost sure of finding himself at the close of life,

according to his merits or his desires, comfortably shelved. And this is one of the great hardships of our profession, that if a man do not succeed in private practice (and some of the best have been unable to command success), he may reasonably expect a miserable poverty. His industry, his learning, his science, his honourable reputation, will all profit him nothing; there are few medical sinecures or salaries to give him; and those few are not enough to satisfy the claims of partizanship, which are ever louder and more favourably listened to than his.

Were it only, therefore, for the sake of obtaining some encouragement for those who are unwilling to undertake the else-unprofitable study of the medical sciences (properly so called), by insuring them a hope of being ultimately rewarded by the gift of some easy and well-salaried office, those of the profession who move in high places, and have the ear of those with whom patronage rests, ought to urge the impropriety of all these recent appointments. It may be done without exhibiting any personal disrespect to those who have either bestowed or received them. Lord Lyndhurst and Lord Cottenham both proceeded according to the ordinary routine; the places to be given were part of the regular patronage of the Chancellor; no particular merit was set before them to be considered; and so, inconsiderately (at the worst), they gave them to their own friends and partizans in politics. These truths would involve no disparagement of the characters of the physicians spoken of: in fact, the question is not one of fitness for the office: it is a question respecting only the degrees of merit of several persons to be rewarded by a good salary, for which the duties to be performed are not very compatible with a considerable number of private professional engagements.

THE OPENING OF THE SCHOOLS.

THERE is so little alteration in the schemes of medical education, that the task of offering advice to students may, unless we would be guilty of unnecessary repetition, be performed in a very few words. The order in which lectures are to be attended by the great majority of students, is strictly laid down in the Curriculum of the Apothecaries' Company: in this, therefore, there is no choice: the lectures must be entered to as they ordain. It does not follow, however, that they either can or need be as strictly attended or studied. As we have often said, anatomy and physiology, chemistry, materia medica, and surgery, include much more than any student can pay profitable attention to at one time: the best recommendation, therefore, that can be given is, that anatomy, both by lectures and dissections, and one other subject, (or, if there be really great talent and industry, two) should be diligently studied, and the consideration of the rest postponed.

As far as possible, hospital practice should be assiduously attended during the whole period of residence in London; it and anatomy are the essentials in metropolitan medical education: in comparison with them every thing else is unimportant; and every arrangement should be carefully made to prevent any hindrance to the active pursuit of knowledge in these fields.

As to the choice of a school for study, there are abundant reasons why we should not, if we could, recommend any one in particular; but what we have said of the need of studying anatomy, and practical medicine and surgery, will be sufficient to express our conviction that, where opportunities for so doing are not honestly and abundantly supplied, there is no real good to be had. For other subjects, there are no schools so bad but that a student may learn at

them; nor any so good but that he may pass his time at them to no profitable purpose.

A more essential thing to be considered is the mode of domestic life. We might have well mentioned last week, among the signs of good progress in last year, the promulgation and the universally favourable reception of the plan of introducing some measure of the collegiate system into our medical schools. In another year we sincerely hope that we shall be able to mention some instances in which the plan has been brought into operation: for we are convinced that it is the only possible safe-guard to the industry and steadiness of the student. In its absence he will do well to frame his plans in the manner most nearly assimilated to it; either by associating in the same residence with one or more of the most steady of his fellow-students, or by residing with some medical man of known good character and reputation, or (which is better still) with some one of the junior members of the school at which he studies. We are glad to know that the plan of taking pupils is becoming so general among the younger of the teachers in medical schools, that a considerable number of the students at each may be sure of finding domestic comfort, and safe and profitable associates, at an expense which, in the end, is less than that of discomfort, and the chance of being tempted into the adoption of the most idle habits.

ON THE STATE OF
THE MEDICAL PROFESSION,
AND ON THE BEST MEANS OF IMPROVING IT.

To the Editor of the Medical Gazette.

SIR,

IN my former letter I endeavoured to point out the anomalous position of the medical men of this country:—without representation, and without protection of their interests. I argued that it is

vain to hope for due attention from the Government, or from Parliament, until medical men themselves shall unite more in their opinions and in their influence; and as the safest and surest mode of engaging the sense and strength of the medical community, without harassing its members with revolutionary measures, it was proposed that new powers from the Government, as well as from the profession, should be vested in the three existing corporate bodies; these being first reformed on the principles of true incorporation, and equal and responsible representation.

Before I proceed to the chief subject of this letter, a specific plan of reform for the College of Physicians, it will be well to state some general features of that applicable to the whole profession.

It seems to me expedient, for the sake of the public as well as of the profession, that, in the contemplated changes, as little violence as possible be done to established usages, where these are not productive of injurious results. For this reason, rather than because abstractedly it is the best possible division, I would retain the distinction of the three orders of the profession, — physicians, surgeons, and practitioners in medicine, or general practitioners.

The physicians constitute the highest class of the profession, whose special object is the treatment of internal or constitutional diseases. They are to be distinguished, first, by the time devoted to their education, both preliminary and medical, the latter being both academical and practical; secondly, by their having attained the degree of doctor in medicine; thirdly, by the amount of the fees to which they are entitled; fourthly, by their not practising pharmacy in any shape.

The surgeons are the highest class, whose special object is the treatment of external diseases, and of those which require manual operations. They should be distinguished by the time expended in their education, which should, in all points, correspond with that of physicians, except that, in their practical studies, surgery should take the prominent part. In the amount of their fees, and in their not practising pharmacy, they should also be on a par with the physicians.

The practitioners in medicine, although inferior to the physicians and

surgeons in the time required for their education, and in the amount of their fees, must be sufficiently instructed to qualify them for the treatment of disease, internal and external. Their examining body must be formed in part by physicians and surgeons. They may practise pharmacy, but not as a means of remuneration. They may not hold offices of physicians or surgeons to public institutions. Physicians and surgeons shall be entitled to enter the order of medical practitioners; but in so doing they must give up the titles and privileges of their former rank.

The practice of midwifery may be attached to either order of the profession, after an examination by competent persons in the respective boards of examiners.

The affairs and interests of each order of practitioners are to be entrusted to a representative head or council, a third of which is to be elected annually by the ballot votes of all the members.

The councils of the respective bodies should have the power of entrusting to a committee of conference, consisting of a certain number from each council, matters affecting the different bodies in common. Questions which the committee of conference cannot terminate to the satisfaction of the councils, may be referred to the Secretary of State for the Home Department. This is the only case in which lay interference will be needed, if the corporate bodies will adopt fully the representative principle. If they refuse to do this, the government of the profession will surely pass into lay hands: and probably the best way in which this may be effected, is by the Government forming a board of public instruction for this and other needed purposes. But this is an alternative which I do not like to contemplate. To return to the College of Physicians.

The great purposes of a college of physicians I conceive to be, not only, first, "to ensure the best education for those who are to become physicians," (Circular of the College, Nov. 27, 1840); but also, secondly, to protect the interests of physicians against all circumstances, *within* and *without*, which may injure the moral, intellectual, or civil dignity of their art and profession; and, thirdly, as the representative organ of the most learned and dignified class of medical practitioners, to decide or

report on all important questions regarding the public health, or other subjects referred to them by the Government, or by other public authorities.

The following are the outlines of a plan for the reform of the College:—

1. The College is to consist of fellows, a president, council, censors, and other office-bearers, as at present.

2. The order of licentiates is to be abolished.

3. The fellows are to consist of the present fellows and licentiates. To these are now to be added, by an act of grace, without examination, all other regularly educated physicians in England and Wales of three years' standing, on payment of a certain contribution to the College. All of less than three years' standing are to submit to an examination.

4. The council is to consist of the office-bearers, and a certain number of fellows, elected by ballot votes of all the fellows, from those of five years' standing in the College. Of these a third go out annually, at a general meeting of the College. A ballot paper, signed by the registrar, with a list of all the eligible fellows, to be sent to each fellow, who writes on it the names of those for whom he wishes to vote. These papers may be sent by post, sealed for the ballot box.

5. The president is to be elected annually by the fellows, from those who are or have been members of the council. Election as with members of the council.

6. The censors and other office-bearers are to be elected by the council.

7. The government and acts of the College are to be entrusted to the council, which is to have the power to fine, suspend, and expel offending fellows.

8. All in future practising as physicians must become fellows of the College, under penalty of fine.

9. Candidates for the fellowship must have completed their 26th year; and, in addition to an adequate acquaintance with classical and general literature and science, they must have spent at least five years in the study of medicine, and the contributory sciences, at some recognised college or school. In the case of those who have been already ten years in practice, four years of study may suffice.

10. Examinations to be conducted by

the censors, *vivâ voce*, and in writing, and to include clinical tests of competency.

This plan, with one or two slight alterations, is that which I submitted to the conference committee of the College in last December; and after having heard many other schemes proposed and debated in the College, I humbly think that this, in simplicity, safety, and sufficiency, excels them all; excepting, however, that subsequently brought forward by Drs. Latham and Watson, which, in no material respect, differs from mine. In further explanation and support of this plan, I will add a few remarks on its several items.

1. This constitution of the College resembles that of other learned societies, and is the only plan on which the privileges of members may be preserved, whilst the offices afford fair means of honourable distinction.

2. The abolition of the degrading distinction of the licentiate, I hold to be essential to the prosperity, nay, the very existence of the College, in the position in which we hope to see it. All that was urged in my former letter against the causes of disunion, is especially applicable to this invidious division in the same order of men. To recognise a man as a physician, and yet to refuse him the full rights and privileges of a member of the body of physicians, is to stultify the recognition, and to stamp him with a mark of inferiority which renders the distinction a perpetual subject of shame and discontent. Even conceding to the licentiates (according to some of the recently proposed schemes), the title of *members*, with the privilege of naming annually for the fellowship a number out of their own order, one half of which number is to be rejected by the fellows, would be but an ungracious half measure of justice, and one ill calculated to promote that harmony and unity of interest which should subsist between the members of the same body. The same serious objections stand against the plan of limiting the number of fellows, and filling up the vacancies, as they may occur, by election from the licentiates. As long as the number of fellows is limited (even were it less so than it is proposed to be), so long will there be discontent among the degraded seniors that are excluded; and although

a disgrace to be excluded, it would be no peculiar honour to be included in the proposed body of two hundred fellows. It is impossible not to foresee that all such measures which keep up a distinction, to which the majority cannot have access, and over which they can exercise no control, must perpetuate that jealousy and distrust that has hitherto alienated the College from the greater number of the physicians practising in this country. This obnoxious distinction was one of the chief grievances complained of in the petitions of the licentiates to the two Houses of Parliament. I appeal to the present licentiates—do they still desire it to be removed?

3. I propose that all the present licentiates shall be at once raised to the privileges of fellowship; and with the view to incorporate the whole order of regularly educated physicians in this country, it seems proper to admit at this time, without examination, all physicians who have been three years or upwards in practice. Those of a later date could not well object to an examination. (I may state, that the College has already resolved on such an act of grace, by which all regularly educated physicians now in practice shall be at once admitted to the *licentiate*, on the payment of a certain fee.)

4. The order of physicians will still have an aristocracy, and the College will still hold out its distinctions; and they will not be distinctions in name only, impaired by numbers, but honourable offices of trust and usefulness. These honours, being conferred by the suffrages of the whole body, will prove bonds of mutual esteem and confidence, instead of causes of jealousy; and being open to all, they will be incentives to honourable ambition, as the rewards of intellectual merit and moral worth. The only limit which it seems desirable to make, is with regard to age and standing in the College. A trust so important as that of assisting in the councils of the governing body of the profession, requires some experience and knowledge of the profession and of the world. I would propose even a longer noviciate than five years, but that the increased sphere and importance of the operations of the College are likely to develop more business than the senior fellows might have time to transact. The more

onerous duties should, therefore, devolve on younger, yet not inexperienced, men; whilst the council would have the advantage of the assistance of the seniors in all matters of importance. The number of the council is a matter for consideration. It is desirable that the number should be sufficient to perform the work satisfactorily, and without too great a tax on the time of each member; but it should not be so great as to lower the honour or the responsibility of the office. Probably from thirty to forty would suffice.

The mode of conducting the ballot for the election of the council is proposed after much deliberation, and with deference to those who have advised the voting to be only personal. When we consider the engrossing engagements of medical men, it is too much to expect those resident at a distance, at a sacrifice of time and money, to come to London to vote; and it would not be fair to deprive country physicians of this their best privilege. Fellows residing in London and its vicinity would otherwise enjoy many advantages over their provincial brethren; and I think it but just to preserve, as much as possible, the privileges of the latter.

5. The power of electing to the presidency of the College of Physicians, the highest medical honour which this country can bestow, certainly ought to be placed in the hands of all the members of so highly educated a body.

6. The duties of censors as examiners, require peculiar qualifications; and it appears to me that the members of the council would, better than the fellows at large, be able to select the fittest persons for this important office.

7. It has been generally found that the affairs of societies are most efficiently and satisfactorily managed by a representative council. The busy and engrossing occupation of medical men renders especially desirable for them this plan of entrusting their common interests to a few of their own choosing. These are still responsible for the trust committed to them, having to give a general report of their proceedings at the annual meeting of the fellows. The yearly change of a third of the council also affords to the whole body the opportunity of refreshing their representative head, according to the wishes of the majority.

The council, as the acting body of the College, will have to co-operate for the fulfilment of what, in a former part of this letter, have been described as the three great purposes of the College of Physicians. As these purposes comprehend several classes of subjects, it will be advisable that the council should appoint separate committees: for example, an Education Committee, a Committee of Privilege and Discipline, a Committee for Medical Police, a Pharmacopœia Committee, a Library Committee, &c. Without entering into further details, it must be apparent that the office of a counsellor would be no sinecure: the reward would be the honour which it confers; but it seems fair that there should be some stipend attached to the office, not remunerative, but as an indemnity for time and service.

8. It is quite proper that a reformed College should have jurisdiction over all the physicians of the country; and that the privileges of its members should be protected by law.

9. The subject of medical education is too wide to be considered here; but the outline given is intended to mark the elevated standard of education and mature age required in this highest rank of medical practitioners.

10. My great reason for mentioning the mode of examination is, to draw attention to the clinical test which is proposed for the practical qualifications of the candidates. This should, I think, be the characteristic of the examination by the College of Physicians, and should not be dispensed with even in those cases in which the high character of the academic degree of the candidate might render superfluous further trial on other subjects.

My chief object in addressing you has been to draw the attention of the profession to its present helpless and oppressed condition; and to point out to all, but especially to those engaged in the reform of the three corporate institutions, the need of the largest and most conciliating measures to ensure union, strength, and justice, to the whole medical community.

I have the honour to be, sir,

Your obedient servant,

CHARLES J. B. WILLIAMS.

Holles Street, Cavendish Square,
Sept. 24, 1841.

ANIMAL MAGNETISM.

AT the present moment, when animal magnetism is again attracting notice in a way calculated to do mischief, we think the following extract very much *à propos*:—

THIS delusion, after having been argued and scoffed out of the world, half a century ago, is regaining favour in Germany. It is a remarkable thing that a people so plodding, and so given to matter of fact, as we commonly suppose the Germans to be, should be so easily captivated by the most fanciful delusions. From Van Helmont down to Gall and Spurzheim, they have been the dupes of a thousand physical and physiological dreams; craniology and animal magnetism have equally led them astray. Devotion to the former of these occult sciences seems to have been handed over to ourselves, for the sect is much more powerful, and better organized, in Edinburgh than in Vienna; and, if its doctrines do not lead to materialism, phrenology is, at least, an innocent dream. Animal magnetism, however, though a deceit of a much more serious complexion, is not only reckoned worthy, as is stated in the text, of being the subject of prelections by a grave medical professor in an university of reputation, but the same gentleman is one of the conductors of a journal devoted to explain the principles, and commemorate the triumphs, of this sensual romance. It has led, however, to scenes of domestic misery and dishonour, which will be much more effectual in restraining its progress, than periods of invective, or volumes of argument. A very melancholy instance occurred in Berlin in 1820, one which was still the great topic of conversation when I was shortly afterwards in that capital, for it had been kept alive by a judicial investigation on a criminal charge preferred against Dr. W——, the actor in the affair, the great apostle of the doctrine in Prussia, and, moreover, a professor in the university. The unfortunate victim was a lady of very respectable family. She had been led, by curiosity, to visit the apartments in which the doctor performs the magnetical process on a number of patients, in presence of each other; and it is at once a very decisive, and a very intelligible fact, in that science, that females are found to be much apter subjects for the influences of this black art than the other sex. In the course of the judicial examinations, rendered necessary by the unhappy issue of the affair, the mysteries of these magnetizing-rooms were partly brought to light; and though there was nothing in them positively scandalous

or indecent, there was a great deal that was ridiculous and Paphian, and of a most improper tendency. According to the testimony of the young lady, when she first visited the rooms, accompanied by a female friend, the wizard received them in a spacious and elegant apartment. Voluptuous odours breathed from every corner, and, united with the moderate temperature, produced an effect which the fair one described, with great *naïveté*, as being “like a May evening among roses.” She and her companion were requested not to utter a syllable, lest the solemn work might be disturbed. The patients, all ladies, and ladies of fortune (for their carriages were in waiting), were arranged round the room on sofas, sound asleep; some were sitting, others were reclining quite along a sofa, others had more decorously thrown themselves back in the corner. The Doctor bent his head over one of them, and gently lisped, My dear young lady, how long will you still sleep? To this Hibernian interrogation, the sleeping beauty answered, in a languishing, broken voice, St-st-still ha-half-an-hour.—*Dr.* Where are you just now?—*Lady.* Under a blooming elder tree.—*Dr.* What do you see?—*L.* A knight.—*Dr.* What is he like?—*L.* He’s a handsome fellow.—*Dr.* Are you speaking with him?—*L.* Yes.—*Dr.* What about.—*L.* About all sorts of things.—*Dr.* What are you catching at?—*L.* At the rose of Jericho.—*Dr.* What do you mean by that? Here the lady’s botany had failed her, for she made no answer, squeezed herself into the corner of a sofa, and slept on in silence. The Doctor, therefore, assured his visitors, that this was no complete crisis, but that he would immediately show them wonders; and truly if what follows be not a wonder, the age of miracles must be allowed to have finally passed away. He began his conversation with a second sleeping beauty with the same question:—Will you sleep long, my young lady?—*L.* Yes; at least half-an-hour.—*Dr.* Perhaps you would take something?—*L.* Yes, Doctor, yes.—*Dr.* What would you wish to have?—*L.* A piece of almond cake, and a glass of Malaga.—*Dr.* Shall I bring it to you?—*L.* Oh, no; do you take it for me, and that does just as well. The Doctor takes the viands from a cupboard, in which such cooling medicines seem to have been always kept in readiness, and putting into his mouth a bit of the biscuit, and some of the wine, continues: How does it taste?—“Excellent,” answered the lady, mimicking the act of eating and swallowing, “Excellent—the cake has so balsamic an odour; the Malaga is so sweet and agreeable! But, dear Doctor, eat and drink a great deal;—do you hear?—a great deal:—and let it be good, right good;—do you understand me? By Nar-

dini!—Yes, by Nardini! who bakes such excellent trifles.—Do you hear, dear Doctor?—Trifles!—ah! that’s what gives one strength;—do you understand me?” But the Doctor seemed to think this crisis rather too complete; for, knitting his brows, he said, “You are sleeping too long, Miss;” made various motions with his hands, which dispelled, in an instant, the magnetical repose, and recalled to herself the slumbering admirer of Nardini’s trifles. As it was getting late, she wished her carriage to be called; but the Doctor thought it proper that she should compose herself after so violent a crisis. He, therefore, again sawed the air with his fingers, stared her right in the face, and, in the twinkling of an eye, she was again fast asleep. He next approached a third, on whom he promised to display the highest excellence of his art. He laid his right hand on the pit of her heart, and with his left, took hold of her right hand. Every motion he now made was repeated by the sleeping patient. He yawned, sighed, laughed, coughed; she yawned, sighed, laughed, and coughed along with him. All motions with his lips, arms, and hands, were immediately repeated. He laid a letter on her lap; she passed her fingers over the lines, and repeated the contents correctly. “Are you now convinced?” exclaimed the Doctor in triumph.

The lady departed, still in doubt; but these amusing scenes had so far shaken her original scepticism, that the magician easily prevailed upon her to arrive at certainty, by having the truth displayed in her own person. The process was carried on in her father’s house. She was placed on a sofa; the Doctor took a seat opposite to her, stared her steadfastly in the face, and her eyes began to close involuntarily. After an exordium, which I do not choose to translate, he described waving lines upon the shoulders, arms, and breast, with the points of his perfumed fingers, and an imposing solemnity of gesture. The experiments were repeated with triumphant success, sometimes in the presence of the lady’s mother and sisters; but, *when others were present, the magnetic influence was uniformly less vivacious.* To the poor girl, conviction and ruin came together; a miscreant could find little difficulty in abusing the mental imbecility which must always accompany such voluptuous fanaticism, and the sensual irritation without which the visionary science has not even a fact. I cannot enter into the details of the miserable and disgusting circumstances which followed. Excess of villainy brought the whole affair before a court of justice, and the Prussian public. It was clear that what was to become the living witness of their guilt had met with foul play, and the enraged father preferred against the profes-

sor an accusation of a crime which is next to murder, or rather, which threatens a double murder. The judges ordered the recipes of certain medicines which the Doctor had administered to the lady to be submitted to three medical gentlemen for their opinion. The report of these gentlemen rendered it impossible to convict Dr. W—— of having used the drugs directly for his infamous purpose ; but as, in certain circumstances, their indirect operation would lead to the same issue, the professional persons gave it as their opinion, that the professor, not only a physician in high practice, but likewise an instructor of youth, was bound to explain on what grounds he had administered medicines of a most suspicious class, in circumstances where no prudent medical man would have prescribed them. The man did not choose to do himself this justice ; but the court did not think there was sufficient evidence to convict him of the direct charge ; and, without a conviction, the government did not think it right to dismiss him. The censorship, however, does not seem to have presented any obstacle to the publication of the details. Professor W—— has lost his character, but retains his chair.

REPORT OF THE CASES
TREATED AT THE
ARDWICK & ANCOATS DISPENSARY,
MANCHESTER,
BY RICHARD BARON HOWARD, M.D.
Physician to the Institution.

THE interesting Reports of the Registrar-General have made very important additions to our statistical knowledge, and constitute a new era in this branch of medical science. They have furnished conclusive evidence of the great proportion of deaths which occur in large towns compared with rural districts, and have also afforded valuable information as to the class of diseases from which this increased mortality arises. Nevertheless, they very inadequately indicate the real extent of unhealthiness of the former places, inasmuch as they contain no account of the immense number of persons who are always ailing and suffering from complaints not terminating fatally. To supply satisfactory data on this point, accurate and numerous reports of hospitals and dispensaries are necessary ; for it must be remembered that a low standard of health is by no means incompatible with even a low ratio of mortality. Many persons live to an advanced age who have been invalids the greater part of their lives ; and a considerable portion of the residents in densely-populated and

closely-built manufacturing towns never experience the exhilarating feeling of vigorous health. Poverty, with its host of attendant evils — sedentary employments, often in heated and ill-ventilated apartments ; the neglect of exercise in the open air ; intemperance ; crowded and ill-constructed dwellings ; and other insalubrious circumstances which are constantly exerting an injurious agency on the inhabitants of large cities — gradually weaken the vital powers, and produce a continuous state of delicate health, without necessarily shortening much the duration of life ; or at least without causing death till after a protracted period.

In the preceding year's Report of this Dispensary*, its situation in one of the poorest districts of Manchester, the indigence and destitution of many of the patients, and their employment, for the most part, in the various branches of the cotton manufacture, were noticed.

The number of patients admitted during the year exceeded four thousand ; but the following report merely comprises those which came under my own care.

CLASSIFICATION OF THE CASES.

Epidemic and Contagious Diseases.

Fever	70
Infantile remittent fever	8
Variola	11
Scarlatina	18
Anasarca following scarlatina	3
Pertussis	14
Catarrhus epidemicus	34

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Diseases of the Brain and Nervous System.

Meningitis	1
Hydrocephalus	7
Delirium tremens	1
Apoplexia	3
Hemiplegia	5
Paraplegia	1
General paralysis	2
Anæsthesia	1
Epilepsia	3
Convulsio	2
Cephalalgia	9
Vertigo	5
Hemicrania	2
Neuralgia	3
Sciatica	2
Hysteria	8
Hypochondriasis	1
Ophthalmia	3
Otitis	1
Dyscoœa	1
Spinal irritation	3
Curvature of spine	2

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* Vide MED. GAZ. vol. xxvii. p. 837.

Diseases of the Organs of Respiration, and of the Heart.

Epistaxis	2
Laryngitis	3
Cynanche trachealis	1
Acute bronchitis and catarrh	42
Chronic bronchitis and cough	93
Pneumonia	11
Phthisis	53
Asthma	14
Hæmoptysis	4
Pleuritis	13
Hydrothorax	4
Pleurodynia	14
Palpitatio cordis	1
Syncope	2
Pericarditis	1
Morbus cordis organicus	13

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Diseases of the Organs of Digestion.

Ulceration of gums	2
— tongue	1
Cancrum oris	2
Dentitio	4
Cynanche tonsillaris	8
— pharyngea	1
Gastritis	1
Dyspepsia	21
Gastrodynia	6
Vomitio	1
Pyrosis	3
Gastric irritation	1
Anorexia	1
Morbus ventriculi organicus	2
Gastro-enteritis	3
Enteritis	1
Intestinal irritation	2
Diarrhoea	29
Cholera	2
Dysentery	3
Obstipatio	17
Colica	2
Colica pictonum	1
Enteralgia	2
Intestinal hæmorrhage	3
Hæmorrhoids	5
Verminatio	6
Tabes mesenterica	8
Peritonitis	3
Ascites	3
Prolapsus ani	1
Icterus	3
Morbus hepaticus organicus	2

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Diseases of the Generative and Urinary Organs.

Syphilis	3
Gonorrhoea	2
Imperforate vagina	1
Cystitis	2
Irritatio vesicæ	2
Dysuria	1
Eneuresis	1

Diabetes	1
Nephralgia	1
Amenorrhœa	10
Dysmenorrhœa	3
Menorrhagia	9
Leucorrhœa	6
Abortus	3
Prolapsus uteri	1
Schirrhous uteri	5
Morbus uteri organicus	3
Scirrhous mammæ	1

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Diseases of the Skin and Cellular Tissue.

Papular eruption	2
Strophulus	1
Lichen	2
Psoriasis	2
Lepa	3
Herpes zoster	1
Eczema	2
Scabies	1
Tinea capitis	1
Porrigio	2
Phlegmon	1
Erysipelas	4
Rupia	1
Erythema oedematosum	1
Pemphigus	1
Anasarca	10
Œdema pedum	4

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Other diseases.

Scrofula	2
Rheumatismus	63
Chlorosis	2
Anæmia	1
Atrophia	2
Debility	3
Deficiency of food	3
Undue lactation	4
Suspended animation (from im- mersion)	1
Intemperance	2

83

Total number of patients—834.

Many obstacles stand in the way of obtaining complete reports of the termination of cases admitted at a public dispensary, and I am quite sensible that the above Table may probably not contain all those which have terminated fatally. It often happens that persons admitted as out-patients reside beyond the limits to which the visits of the medical officers extend; and if such patients become worse, and unable to attend at the dispensary, they are lost sight of, and the final result of the disease is not known. Many, in consequence of their destitute condition, are taken into the poor-house. From a variety of other causes, also, patients labouring under fatal chronic maladies are apt to absent themselves, and obtain other

medical advice, whereby the register of mortality is rendered incomplete.

The year has not been marked by the prevalence to an unusual extent of any disease of the epidemic class. They constitute about one-fifth of the whole cases admitted, and of the total deaths thirteen arose from these diseases.

The type of *Fever* exhibited nothing peculiar, and was, upon the whole, of a very mild character. Only one fatal case is recorded; but it ought to be stated, that seven of the most severe cases were sent to the fever wards, and amongst these probably some deaths occurred. Generally speaking, there was much greater disturbance of the nervous than of the vascular system. Sleeplessness was often one of the most urgent and enduring symptoms; but opiates were commonly well borne, and proved highly beneficial.

All the cases of *Variola* occurred in children under six years of age, none of whom had been vaccinated.

Four cases of *Measles* proved fatal. In one of these there was excessive swelling of the parotid and submaxillary glands, which, by impeding respiration, seemed to be the immediate cause of death. In another, the fatal event arose from subsequent tubercular disease of the lungs. The other two cases occurred in the same family. One died from cerebral affection, after recovering from a severe attack of bronchitis; in the other, the eruption was of a dark colour, there was little febrile action, and the child sank on the seventh day of the disease.

Scarlatina did not prevail so extensively during the past as the preceding year. The disease was by no means of a severe type, and the instances in which it was followed by anasarca were not so numerous, owing, probably, to the greater mildness of the weather during the time the complaint was most prevalent. Only two cases were fatal. One occurred in a child two years old, who died of effusion within the head, on the sixth day of the disease. The other was that of a girl, aged fifteen years, who had been suffering, previous to the attack, from scrofulous ulceration of the throat, involving the soft palate, tonsils, and pharynx. She recovered from the immediate effects of the scarlet fever, but the ulceration extended, and she died at last in a typhoid state.

[To be concluded in our next.]

EXTRA-UTERINE FŒTATION.

REMOVAL OF THE FŒTUS THROUGH THE VAGINA.

BY M. VOILLEMIER.

BAUDELLOCQUE first conceived the idea of delivering women affected with extra-uterine

conceptions, through the vagina. Since his time the operation has been often performed; and sometimes the mother, sometimes the child, and sometimes both, have been saved. Whenever it can be performed, the operation is preferable to gastrotomy; but should it be resorted to when the fœtus is certainly dead? This is a question still to be resolved; for so many cases have been seen in which fœtus, having become congested, have given no trouble for several years, and so many in which women have died of operations, that in general these cases have been left to nature. Dubois and Boyer thus left a case, of which the remarkable history was given by M. Thivet (Bull. de la Soc. Anatomique, 1839): the fœtus remained for eighteen years in its mother's peritoneal cavity, and she died of a strangulated umbilical hernia independent of it. In other cases, after an uncertain length of time, a process is set up by which the fœtus or its debris are discharged either by the rectum or by the vagina, and then the cure may follow; but in yet other cases the cyst opens into the peritoneum, and then a peritonitis destroys the patient; or else fistulous abscesses are formed in several directions at once, into the intestine, the urinary and genital organs, and the abdominal walls; and these are followed by death, or very slowly by recovery. Such accidents might have been feared in the following case by M. Voillemier:—

The patient having escaped the first dangers which attend every extra-uterine pregnancy, and which seemed still more imminent on the day when labour pains came on, thought herself suddenly delivered: the pains ceased, the abdomen diminished in size, and she regained her health. But after a year, without any known cause, she had dull pains in the hypogastrium; and, her health being again deranged, she came into the Clinical Hospital on the 18th of August, 1838, being then forty-one years old. After making the necessary inquiries of preceding history, and an attentive examination of the abdomen, a large fœtus was discovered. Above the upper aperture of the pelvis on the right side, there was a round solid tumor formed by the head; higher up, and towards the left and forepart, there was a flat surface, with some irregularities, which it was thought was formed by the vertebræ; and more to the right, and below the ribs, there was another tumor presenting several projections, but nothing very distinct. The fœtus therefore appeared to be placed in nearly the first position. By the side of the vagina, fixed in the upper strait, a round hard tumor, evidently formed by the head, was felt: it was covered by only a soft and thin envelope, and the sagittal suture could easily be felt. The uterus was thrown behind the horizontal ramus of the right os pubis,

and had undergone no other change than that of position.

On the 21st of August, M. Dubois performed the operation. After having introduced a short and large speculum into the vagina, he made along the tumor a transverse incision, which penetrated to the bones of the head; but no liquid following, and finding no separation of the divided tissues, he feared there might be adhesion of the head of the fœtus to the lower part of the cyst, and he had the patient put to bed again. On the same evening a fœtid puriform discharge through the vagina took place; on the next day there was a little fever; on the 24th nausea and great tenderness on pressure of the abdomen. Leeches, Seidlitz water, &c. were ordered. On the 26th there was more pain; the bones of the head were felt shifting one upon the other. On the 27th several portions of them were extracted: the discharge was very abundant, but was not now fœtid. On the 6th of September the bones of the face were extracted without difficulty. Two hours after there were violent rigors; but the fears which they excited were soon relieved, and next day the patient got up. Slowly walking and injections promoted the descent and discharge of the other bones; but the sac had to be examined again to extract some of the long ones. On the 28th of September the patient went out completely cured.—*L'Examineur*, Juin 27, 1841.

[The first number of another weekly French journal. Its editors are M. Dechambre and M. Mercier.]

VACCINATION IN FRANCE.

THE following are the conclusions from the annual report on the communications relative to vaccination in 1839, read at the Academy of Medicine of Paris, by M. Gauthier de Claubry, at the meeting on the 11th of May.

1. In the epidemics of small-pox that have occurred in the provinces, vaccination has incontestably exhibited the property of arresting the progress of the disease, by reducing, even in the subjects the most recently vaccinated, the variola to the varioloid.

2. Throughout France, an immense majority of those formerly vaccinated have remained free from the sporadic, and even from the epidemic, variola, notwithstanding the most direct communications with infected individuals.

3. Whenever the variola had existed but a few days, or had already arrived at a more advanced period of its evolution, it has always undergone a favourable modification from the influence of vaccination.

4. Some cases of varioloid, very like variola, and some of genuine variola, are said

to have occurred in subjects formerly vaccinated. But, in the first place, several of these observations are manifestly incorrect; for, on the one hand, a case has, for example, been reported as variola, though the eruption lasted only three days; and, on the other, faith cannot always be placed in certificates of the success of vaccination, since it is notorious that they are often given out of kindness to the parents on the very day of the operation. But, however the case may be, it may be affirmed that, on a close examination of the cases of variola or of varioloid that have occurred in persons vaccinated, they have always been found less serious than the eruptions of the same kind in others.

5. The alteration of the vaccine by numerous transmissions is denied by the majority of observers: 170 practitioners and 11 vaccination-committees have declared themselves against this hypothesis. Some practitioners have vaccinated, on the same subject, one arm with old, and the other with renewed, vaccine matter; and the characters of the eruption, and the appearance of the cicatrix, have been the same on both sides. There is no reason, therefore, at present, for regarding this alteration of properties as a settled thing.

6. The same number of vaccinators disapprove of re-vaccination, at least as a general measure; because, by shewing the little faith which the practitioner has in vaccination, it will destroy the confidence of the public, and will render them averse to a measure to which there is already sufficient difficulty in making them submit. Moreover, the partisans of re-vaccination are not agreed as to the period at which it ought to be practised. Some would have it done 20 or 25 years after the first vaccination; others fix a shorter term: some say that a person ought to be re-vaccinated till he presents a pustule similar to that of the primitive vaccine eruption; and it has even been proposed to re-vaccinate the whole population every five years. One physician, shocked with these exaggerations, limits himself to the desire of re-vaccination in case of an epidemic of variola, as a means of restoring the public confidence.

7. In 1839, out of 6,652 re-vaccinations, of which the results have been regularly observed, there were 718 cases in which the pustule presented the normal characters; 1,283 times the local eruption presented doubtful characters, from which nothing could be concluded; and 4,651 times no effect was produced. Thus, the very small number of cases in which re-vaccination produces any results, proves that the majority of persons are incapable of receiving the vaccine influence twice, and consequently, that a second vaccination would most frequently be useless.

8. In the cases in which re-vaccination has had a positive result, it has not always prevented the occurrence of variola.

9. Even supposing that the re-vaccinated persons were completely secure, variola could never be thus extinguished, for it would be impossible to make re-vaccination a general measure.—*Gazette Médicale*, Mai 15, 1841.

ON THE EMPLOYMENT OF NITRATE OF POTASS IN LARGE DOSES

IN THE TREATMENT OF

ACUTE ARTICULAR RHEUMATISM.

BY M. ARRAN.

THE object of this memoir is to recal the attention of practitioners to a mode of treatment long forgotten, but which has lately been tried anew in two hospitals in Paris. After referring to the passages by Brocklesby, Macbride, and W. White, who, during the latter part of the eighteenth century, described in England the advantages that might be obtained by the use of large doses of nitre in the treatment of acute articular rheumatism, the author relates the cases which he has observed of its effects. The mode of employing the remedy was as follows:—Each patient, from the beginning of the treatment, took large doses of nitrate of potass, dissolved in a drink suited to his taste, and carefully dulcorated. The quantity of nitre dissolved in each pint of the drink never exceeded twenty grains, and most frequently the patients began with from ten to fifteen grains.

The number of cases related is twelve, in two of which a relapse occurred. In three of them there was affection of the heart, but they were all cured in an average of eight days from the beginning of the treatment, and of fourteen days from the commencement of the attack. The average quantity of nitre administered in the twenty-four hours was thirty-three grains, divided in three pints of the drink; and the average quantity administered during the whole continuance of the disease was three hundred and seventy-four grains.

In general, the administration of the nitre in this manner excited frequent and abundant perspiration, sometimes copious alvine evacuations, and less frequently plentiful discharges of urine. Under its influence the pulse quickly diminished in frequency and in hardness; and, in general, all these changes were observable within one day from the beginning of its employment.

The author states that nitre may be thus employed at any period of the disease, but that it generally succeeds better the earlier it is given; for that then it prevents the

further development of the affection, and materially abridges its duration. Sometimes it may give rise to all the symptoms of gastric disturbance: in this case its administration must be suspended, and evacuants must be given till the symptoms have passed away. Then its use may be again resorted to. The only counter-indication to its employment is, when a rheumatism is complicated with a really inflammatory affection of the stomach or the intestines.—*Gazette Médicale*, Mai 15, 1841.

POISONING WITH CANTHARIDES.

MARGARET DAVIS, aged 29, born in Massachusetts, married: admitted October 4th, with a wound of the labium, which had been received about seven hours previous to admission.

Nov. 12th.—Since last report she has been walking about, and indeed is well in every respect, except that her urine has to be drawn off. $\mathfrak{z}\text{j}$. of Tinct. Canthar. ordered, gtt. x. of which to be taken three times a day.

13th.—At half-past six this morning, the patient first made known that she had taken the whole of the Tinct. Canth. ($\mathfrak{z}\text{j}$.) ordered yesterday. She took it about mid-day. When questioned as to the cause of her doing so, she said she thought it would cure her sooner. It was remarked by different persons in the house, that during the afternoon she appeared as if intoxicated or crazy. Her condition this morning was as follows: excruciating pain over the whole abdomen, which is increased by pressure; the pain, however, is most severe over the hypogastric region and serobieulus cordis. The abdomen is swollen to the size of a woman's at the full period of utero-gestation, tense, and tympanitic. Pulse not much accelerated; tongue rather pale and dry; face flushed, with an anxious expression of countenance. During the night she had passed about a pint and a half of urine, which was mixed with organized lymph, and a substance resembling what is called mother of vinegar. Ordered hip bath, and the following prescription every two hours:—

R. Pulv. Opii, gr. j.; Pulv. Camph. gr. ij. ft. pil. Flaxseed tea to be drank plentifully.

6 P.M.—Patient very feeble; pain still severe, worse if any thing than in the morning; extremities cold; pulse scarcely perceptible. Ordered bottles filled with hot water to be applied to the feet, and hot fomentations to the abdomen.

11 P.M.—As her pulse had become more full, and the pain continued very severe, especially in the hypogastric region, twenty

leeches were applied, and afterwards a large poultice. Pill of camphor and opium to be continued throughout the night. Urine drawn off with a catheter.

14th.—Patient delirious. The swelling of the abdomen slightly diminished; on pressure she seems to experience no pain; during the night passed some urine.

Flaxseed tea continued; pill stopped; fomentations of hops applied to the abdomen.

P.M.—Delirium passed off. Patient now complains of pain about the region of the kidneys and bladder. Fomentations continued. Sol. Sulph. Morph. gtt. xx. given, and urine drawn off.

15th.—Patient comparatively comfortable. Swelling of the abdomen entirely gone; pain in the region of kidneys and bladder still continues, though in a less degree; urine drawn off at night, and twenty drops of morphine given.

16th.—Not much change. Pain still continues.

17th.—Patient much better; pain subsiding.

27th.—Patient entirely well of all her difficulties; her urine has still to be drawn off by a catheter.

Discharged this day by request.—*New York Journal of Medicine and Surgery.*

METEOROLOGICAL JOURNAL.

Kept at EDMONTON, Latitude $51^{\circ} 37' 32''$ N.
Longitude $0^{\circ} 3' 51''$ W. of Greenwich.

September.	THERMOMETER.		BAROMETER.	
Wednesday 22	from	55 to 64	29.60 to	29.60
Thursday . 23		52 60	29.60	29.57
Friday . . . 24		48 59	29.60	Stat.
Saturday . 25		49 62	29.39	Stat.
Sunday . . 26		50 60	29.39	29.40
Monday . . 27		49 61	29.36	29.50
Tuesday . 28		54 63	29.29	29.18

Wind South and South-west.

On the 22d, morning overcast, with heavy rain; otherwise clear. The 23d, afternoon and evening clear; otherwise cloudy, with rain. The 24th, afternoon clear, otherwise overcast; raining frequently during the morning. The 25th generally clear, except the morning, when rain fell. The 26th generally cloudy; raining frequently during the day. The 27th cloudy; sun shone at times during the afternoon; a little rain fell in the morning. The 28th, a general overcast; raining frequently during the day, and very heavily during the night.

A storm of thunder and very vivid lightning, accompanied by heavy rain, from about five till half-past six, on the morning of the 23d.

A meteor of extraordinary brilliancy passed from near the Zenith towards the N.W. on the evening of the 24th. The train was from five to six degrees in length. Its passage very slow.

An Aurora Borealis on the morning of the 26th.

Rain fallen 1 inch and .67 of an inch, of which .525 of an inch fell during the night of the 27th and morning of the 28th.

CHARLES HENRY ADAMS.

TABLE OF MORTALITY FOR THE METROPOLIS.

Shewing the Number of Deaths from all Causes registered in the Week, ending Saturday, the 18th Sept. 1841.

Small Pox	8
Measles	15
Scarlatina	12
Hooping Cough	45
Croup	8
Thrush	12
Diarrhoea	27
Dysentery	5
Cholera	2
Influenza	1
Typhus	30
Erysipelas	4
Syphilis	0
Hydrophobia	0
Diseases of the Brain, Nerves, and Senses ..	147
Diseases of the Lungs, and other Organs of Respiration	247
Diseases of the Heart and Blood-vessels	20
Diseases of the Stomach, Liver, and other Organs of Digestion	80
Diseases of the Kidneys, &c.....	4
Childbed	7
Ovarian Dropsy	0
Diseases of Uterus, &c.	0
Rheumatism	2
Diseases of Joints, &c.	0
Ulcer	0
Fistula	0
Diseases of Skin, &c	0
Diseases of Uncertain Seat	108
Old Age or Natural Decay.....	65
Deaths by Violence, Privation, or Intemperance	21
Causes not specified	7

Deaths from all Causes 877

RECEIVED FOR REVIEW.

Dr. Prichard's Researches into the Physical History of Mankind.

Sir Alexander Mackenzie Downie's Practical Treatise on the Efficacy of Mineral Waters in Chronic Disease.

Dr. F. A. Balling's Description of Kissingen, its Baths and Mineral Waters. Translated from the German, by Sir Alexander M. Downie, M.D.

Animal Magnetism: its History to the present time; with a brief Account of the Life of Mesmer. By a Surgeon.

M. LUGOL'S LECTURES.

M. Lugol's second lecture will be given next week.

NOTICE.

We regret that we cannot give insertion to the communication of Dr. Kingston, because it is almost wholly made up of extracts of his own, and others, already published. The object is to show that the lecture by M. Lugol, which we gave last week, "affords as full a confirmation as could be desired of the statement I (Dr. K.) published in 1836, that red vessels are sometimes to be seen in tubercle." Dr. Kingston may have the paper published in the *extra limites* department, if he wishes it.

WILSON & OGILVY, 57, Skinner Street, London.

THE LONDON MEDICAL GAZETTE,

BEING A
WEEKLY JOURNAL

OF
Medicine and the Collateral Sciences.

FRIDAY, OCTOBER 8, 1841.

ANALYSIS

OF

M. LUGOL'S CLINICAL LECTURES,

Delivered at the Hôpital St. Louis.

REPORTED BY

JAMES H. BENNET AND ERNEST GUIET,

House Surgeons to the above Hospital.

Tubercles in different organs; modes of detecting them. Tubercles in the lungs not always to be detected by auscultation and percussion. Tubercles in the brain and cerebellum. Tubercles in the lungs; connection of this with puberty;—a form of scrofula unconnected with inflammation. Tubercles of the liver, kidneys, ovaries, and testes; in the muscles, bones, blood-vessels, and blood.

Formation of tubercles; its independence of inflammation.

Tubercles in particular organs.—The details into which we are about to enter belong, properly speaking, to pathological anatomy; the diagnosis of tubercles, in particular organs, being in very many cases surrounded by the greatest obscurity, at least during the first period of their existence.

When tubercles exist in the subcutaneous regions, the mere local examination of the part at once enables us to convince ourselves of their presence, although, as we have already stated, these morbid productions develop themselves gradually, without pain, and without swelling of the surrounding parts—in a word, without giving rise to any appreciable phenomena. When, therefore, we consider that subcutaneous tubercles only become manifest during the first stages of their existence, because they are external, we can easily understand how it is that in the mediastina and in parenchymatous organs, this source of diagnosis being closed, it should be always difficult, and often impossible, to recognize their presence.

Tubercles may exist in parenchymatous organs, may even partly annihilate them, without their existence being revealed by any external symptom; or, if they are discovered, it is at an advanced period of their existence, when the malady has made such considerable strides that the resources of our art are no longer available. Cases such as these can scarcely be looked upon as instances in which the malady has been recognized during life: they belong, in reality, to pathological anatomy.

The uncertainty of the ordinary means by which we are guided in the research of these lesions, evidently proves that these means are inadequate,—that we follow an erroneous course in our investigations, and that, if we wish to be more successful than we have been hitherto, we must adopt a different mode of proceeding. When pulmonary tubercles are suspected, we hasten to auscultate and to percuss the thorax; but in many cases auscultation and percussion remain mute, even when there are numerous tubercles disseminated in the tissue of the lungs; and this accounts for the fact, that many physicians, after having greatly exaggerated the value of the stethoscopic symptoms, now consider them as a means of diagnosis which is little to be depended upon, at least during the first stages of that malady.

There is, however, another method which we may follow in our endeavours to arrive at the diagnosis of tubercular affections during their first stages: it is that of induction. For instance, a patient complains for some time of slight pain and uneasiness in the thoracic cavity: recourse is had to auscultation and percussion: the resonance of the thorax is found every where normal; pulmonary expansion free and easy; respiration perfectly natural: and guided by these data, the physician declares that there are no tubercles in the lungs. But he is deceived: the method of investigation which he has followed has been inefficient. If we

consider that the patient is born of tubercular parents, that he has lost brothers or sisters from phthisis, or that they are suffering from cervical tubercles, white swellings, or other scrofulous affections; that his health has been delicate, that his growth has been deficient—in a word, if we consult with care antecedents and coincidences, we shall acquire the conviction that his lungs contain tubercles, although auscultation is powerless to demonstrate their presence. One of two things happens, either auscultation agrees with the antecedents and coincidences, and then we may look upon it as an additional means of diagnosis; or it disagrees with the data furnished by induction, and then I prefer being guided by the latter rather than by auscultation, which has so often deceived both myself and others.

This method of reasoning, by induction, is as old as science, and has been transmitted from one age to another by tradition; nor can we be deceived by it, if we interpret it faithfully. Nature is always the same: the same causes every where lead to the same results. Tubercles are hereditary; consequently, whenever they exist in one of the ascending parents, the descendants are more or less under the influence of tubercular diathesis, even before this state of the economy has revealed itself by any external symptom.

Tubercles of the brain and cerebellum.—Out of four cases which M. Lugol mentions in which tubercles were found in the brain after death, there are two in which symptoms occurred during life, which may be ascribed to their presence; but in the other two cases, although the lesions were far more serious, the left hemisphere having nearly entirely disappeared in one instance, and being replaced by a cyst filled with tubercular matter in the other, no external sign revealed the tubercular disease. It is indeed a most remarkable fact, that the brain, one of the organs the integrity of which is generally considered necessary to our existence, should undergo such extensive alterations without any external phenomena informing us of the gravity of the lesions which have taken place in its substance.

It is equally difficult to ascertain the presence of tubercles in the cerebellum. In most cases, indeed, their existence is not even suspected. M. Lugol has met in several instances with tubercles as large as a walnut or a horse-chestnut, developed in the substance of the cerebellum, in subjects who during life had presented no phenomena calculated to draw his attention to the encephalic organs. Among the cases which he relates there is one which deserves to be mentioned, as it bears, to a certain extent, on the ideas which physiologists entertain respecting the functions of the organ. The

patient, a young girl, although seventeen years of age, presented no appearance of puberty; the breasts and genital organs were not at all developed, and appeared in a perfectly rudimentary state. The head was always thrown backwards, and it was only by an effort of the will that she was able to bring it forwards.

M. Lugol has seen a tubercle lodged in the annular protuberance, without its having given rise to any abnormal phenomena. He has also met with a case in which the spinal cord was depressed, and diffuent in two different regions, without any symptom of compression having been observed before death.

Tubercles of the lungs.—In the lungs these morbid productions are so frequently met with in scrofulous subjects, that M. Lugol thinks they may be said always to coexist in that organ with other scrofulous affections, when the patient has attained the age of puberty; and believes that this rule suffers but very few exceptions. Tubercles may appear in the lungs at a very early period of life. Thus, with children, obstinate coughs sometimes depend on their presence in the pulmonary tissue. The period of life, however, which is more especially threatened with the manifestation of pulmonary tubercles, is the few years which follow puberty. At this epoch of the existence of scrofulous subjects we too frequently find them manifesting their presence by the series of terrible symptoms which characterize tubercular pulmonary phthisis. Puberty is therefore the most favourable period for the development of tubercles in the lungs; and this is so general a fact, that in the only three cases in which M. Lugol recollects having assured himself of the absence of tubercles in the lungs of scrofulous patients, who had arrived at the ordinary age of puberty, there was complete absence of all the organic signs by which puberty is usually characterized.

Scrofulous patients, however, occasionally advance in years without any symptoms of pulmonary tubercularization making their appearance; indeed, in some cases, in which strong reasons for presuming that pulmonary tubercles exist—have been observed, we find that the symptoms on which the presumption was founded gradually disappear as the patient approaches the age of puberty, and he then appears to escape, as it were, from the fatal influence of the tubercular manifestation; but the predisposition still exists, and the malady may return sooner or later.

Sometimes the lungs are suddenly invaded by tubercles, the generation of which progresses with frightful rapidity. This form of phthisis is promptly fatal, and may be assimilated to the rapid generation of tubercles which we have stated to occur occasionally in the cervical region.

Pulmonary tubercles follow precisely the same course as tubercles in general. At first disseminated in the tissues of the lungs, they gradually converge as they increase in size and number, and, uniting, form tubercular masses. These tubercular masses, when they soften and are evacuated, are succeeded by caverns, which are, therefore, merely cavities situated in the substance of the lungs and occupying the place of the tubercular masses; cavities the parietes of which are formed by pulmonary tissue and the remaining tubercular matter. When a tubercular mass situated in the lungs empties itself into the bronchi, and is rejected by expectoration, it constitutes a vomica.

Many errors are still current respecting these vomicæ. A phthisical patient expectorates the contents of a tubercular mass, and the medical attendant gives his friends hopes, founded on his belief that the parietes of the cavern thus formed may heal, and that the patient may escape the danger which threatens him. But these hopes are delusive. It is just possible that the tubercular abscess which has thus emptied itself may heal, but even were there no other tubercles or tubercular tumors in the lungs, the predisposition to the generation of tubercles still exists—the patient is still scrofulous; in nearly every case a fresh crop of tubercles will be generated in the pulmonary tissue, and he will eventually fall a victim to their presence.

Generally speaking, the masses formed by the aggregation of tubercles primitively isolated are not single; sometimes, even, there are several of various sizes disseminated in the pulmonary tissue. The cavities which replace them, when they have emptied themselves into the bronchi, become the seat of a more or less abundant tubercular suppuration. The tubercular expectoration is occasionally absent, although numerous tubercular tumors are present: this is the case when they have not yet formed any communication with the bronchi.

We shall only mention the existence of a trachæal, pleural, and costal fistulæ. The history of the symptoms to which they give rise does not immediately belong to our subject.

On examining the lungs of a person who has fallen a victim to this fearful malady, says M. Lugol, we are often induced to ask ourselves how it is possible that respiration can have been carried on with lungs which the progress of tuberculization has invaded—has destroyed to such an extent that it seems as if there scarcely remained a particle capable of accomplishing the respiratory functions, and even this particle often appears to be nearly separated from the bronchial tubes. The greater part of the tissue which remains healthy is also, in most cases, so compressed

and indurated, that it is no longer susceptible of receiving the air in its vesicles. Indeed, it is evident to any one whose attention has been directed to the subject, that many phthisical patients cannot be said to breathe by the lungs for some time before they die. How is it, then, that these patients do not die from asphyxia? what conclusion can we come to in the presence of such facts? which is the organ that takes the place of the pulmonary apparatus? M. Lugol, not having met with facts calculated to establish a theory, refrains from attempting to solve so difficult a problem.

The presence of tubercles disseminated in the pulmonary tissue may coincide with an otherwise healthy state of the organ; indeed, M. Lugol questions whether the substance of the lungs be not healthy in the more advanced stages of the disease, as he thinks it not at all improbable that it is merely absorbed by the tubercles, in the same manner as the cellular tissue which exists in the vicinity of subcutaneous tubercles.

From what precedes, it is evident that the history of pulmonary tubercles belongs to that of tubercular scrofula. We have examined the subject under an anatomical point of view only, as extended details respecting pulmonary phthisis would be here misplaced. Sufficient, however, has been said to show the position which that disease ought really to occupy in pathology, and we will merely remark that pathologists would never, in all probability, have attributed pulmonary phthisis to inflammation, had they not separated its study from that of scrofula, of which it is only a manifestation.

Tubercles of the liver, kidneys, ovaries, and testicles.—The liver is often found to have undergone the fatty degeneration in scrofulous subjects, but is seldom the seat of tubercles. Tubercles are also rarely met with in the biliary passages; M. Lugol has, however, found one as large as a walnut in the cystic duct. They are more frequent in the spleen than in the liver, and when co-existing in both are generally found to have arrived at a more advanced stage of their existence in the former than in the latter organ. M. Lugol has never met with tubercles in the parenchyma of the pancreas.

In the kidneys tubercles are common, and they may invade either the cortical or tubular substance, and sometimes acquire the size of a walnut. There are seldom more than three or four present in the same organ. M. Lugol has seen tubercular matter in the urters.

M. Lugol has only once found tubercles in the ovaries, and that was in a young girl who also presented these morbid productions between the folds of the mesentery, in the cerebellum, and in the lungs. In 1827, on examining a girl who had fallen a victim to

scrofula under all its forms, M. Lugol found bunches of hydatids suspended, as it were, in the cavity of the fallopian tubes; hydatids which he thinks may have some analogy with the tubercular manifestations which were observed in other parts of the body.

M. Lugol has often met with tubercles in the testicles.

Tubercles of the muscles, bones, and blood-vessels.—Tubercles may be generated in muscular tissue, as also in every other tissue of the economy; M. Lugol has, however, only met with them in the psoas muscle: in the cases in which the tubercular matter was found thus situated, it was entirely isolated in the midst of the muscular structure; there was no osseous lesion in the neighbourhood. The tubercular matter lodged in the tissue of the psoas had evidently been there generated, and had there undergone the various phases of its development.

The existence of tubercles in the bones cannot now be questioned, and it is worth mentioning that M. Lugol satisfactorily demonstrated this fact, by cases and by drawings, more than twelve years ago. We do not allude to those tubercles which are situated in the immediate vicinity only of osseous structure, and which, although adherent, do not belong to it, but to those which are developed in the tissue of the bone itself, and which increase, like other tubercles, at the expense of the organ in which they develop themselves. This explanation is necessary, some authors having pretended that tubercles are never generated in the interior of osseous structure, but externally to it, and that the caries which so often accompanies their presence is consecutive—an opinion which is merely theoretical, and altogether contrary to facts. We sometimes, however, see tubercles developed in the contiguity of bones, corroding, and even perforating them, by the mechanical pressure which they exercise. M. Lugol mentioned two interesting cases of this kind which have fallen under his notice. In one, a tubercular tumor successively destroyed the zygomatic process, and a portion of the sphenoid and of the petrous portion of the temporal bone, so as to come in contact with the dura mater; in the other, a subcutaneous tubercular tumor gradually perforated the sternum, and thus arrived at the anterior mediastinum.

Tubercles originally generated in the osseous system are often found to have developed themselves in the very centre of the bone, and are surrounded everywhere by healthy osseous tissue; so that it is quite evident that they cannot have existed externally to that tissue.

Independently of tubercles which are often met with in the tibia, femur, vertebræ, humerus, &c., tubercular matter is sometimes

found infiltrated, as it were, in the osseous tissue. The phalanges, the vertebræ, the petrous portion of the temporal bone, have respectively presented M. Lugol with remarkable instances of this pathological fact.

Tubercles of the osseous system are not as regularly ovoid as those of other parts of the economy; a disposition which may be attributed to the resistance of the osseous cells, which modifies the primordial form of these morbid productions. The form alone, however, is changed; for in the bones tubercles present the same density, and the same organization, as in every other region.

Tubercles are only met with in the spongy substance of bones; the compact substance never presents any traces of tubercular matter.

It is by no means unfrequent to see tubercular masses surrounding the larger blood-vessels; masses which sometimes exercise a certain degree of pressure on them. Compression of the large vessels by tumors of different kinds has been made to play a very important part in the development of passive dropsies; it would, therefore, be interesting to ascertain the nature and extent of the phenomena to which pressure of the blood-vessels by tubercles, or by tubercular tumors, gives rise, when such pressure appears really to have existed. Although, however, M. Lugol's attention has long been directed to this subject, he has not yet been able to point out the link which connects compression of the blood-vessels by tubercular matter, and serous effusion, as consecutive phenomena; a circumstance which may be attributed to the fact already mentioned, that, although vessels are often found partly or completely surrounded by tubercular masses, the compression which the strumous collection exercises on them is seldom such as to give rise to any perceptible diminution in their calibre, or materially to impede the circulation.

M. Lugol has often seen serous effusions, or anasarca, existing in scrofulous subjects without any manifest compression of the vascular system. On the other hand, he has frequently found voluminous strumous tumors, evidently compressing larger vessels, without these phenomena being present, whilst, in some instances, he has met with general or local serous effusion coinciding with evident diminution by pressure of the vascular tubes round which the tubercular matter was generated.

The difficulty which we experience to establish on these facts any general rule may perhaps be explained by the reflection that we fix our attention too exclusively on the part where we discover the compression, or where we think it ought to exist. We must not, however, lose sight of the fact that the patients who present tubercular

tumors along the course of the vessels in one region, generally present other tumors of a similar nature in other regions, and that the tubercles thus disseminated throughout the economy, although not exercising separately a sufficient degree of pressure to react on the circulation, may, by their combined action, retard the venous circulation, and thus occasion serous effusion.

In speaking of tubercles developed in the vicinity of the aerial tubes, we mentioned that these morbid productions seldom destroy the parietes of these tubes in such a manner as to establish a communication with their interior. This remark, which we have seen to be also applicable to the digestive cavities and to the biliary passages, is equally true with regard to blood-vessels. M. Lugol has never met with a single case in which a tubercle or tubercular tumor, developed along the course of a vessel, had perforated the tunics of that vessel.

Tubercles in the blood.—M. Lugol has found tubercles in the blood in a case in which it is impossible to admit that they had originated externally to the vessels in which they were contained. The tubercles, of an ovoid form, were situated in the primitive iliac veins, at the origin of the vena cava. The subject on whom they were found was scrofulous in the extreme, and the pelvis was filled with tubercular tumors. The tubercles, ten in number, were found swimming in the venous blood.

We have now studied tuberculization in nearly every organ, and in nearly every tissue of the economy, and a question of immense importance offers itself to us: how do these morbid productions establish themselves, or, in other words, how are they formed?

Formation of tubercles.

Pathologists are by no means unanimous with regard to the formation of tubercles. Some look upon them as the product of inflammation; others as merely a product or an alteration of secretion, whilst some again consider tubercles as a degeneration of normal tissue.

M. Lugol regards tubercles as parasitical organs, generated in the economy, with an organisation which enables them to increase by intussusception; so that their progressive development is at once explained by their anatomical structure.

Were tubercles merely the normal tissues of the economy degenerated, we should, during the first stage of their development, recognise the tissue which is undergoing the morbid change. There would be a period at which we should be able to recognise a tubercle separated from the tissues in which it has been generated, and to say, this is a tubercle of the liver, this a tubercle of the

lungs, &c. But such is not the case; wherever a tubercle is found, with the exception of slight difference in the form, it is always the same; the tissue in which it is generated does not modify its nature.

Let us now examine carefully the theory which attributes the formation of tubercles to inflammation.

Inflammation is a peculiar and complex state, which presents symptoms inherent in its nature, the same in every tissue, and other symptoms which differ according to the organs or tissues attacked. If we examine the products of inflammation, we find that they differ in different organs and tissues; thus, the liver does not suppurate as the lungs, nor the serous membranes as the mucous. Tubercles, on the contrary, are everywhere identical, and not dissimilar in each organ and in each tissue, as they necessarily would be were they the products of inflammation.

The generation of tubercles has been mostly studied with reference to the lungs, to which organ the various theories by which pathologists have endeavoured to explain their appearance more especially apply: it is, therefore, with reference to this organ that we shall examine the opinion which attributes the formation of tubercles to inflammation.

Pneumonia is one of the commonest maladies we are called upon to treat; and, were it really the proximate cause of tuberculisation, it would certainly be easy to perceive the relation which exists between inflammation as a cause, and the generation of tubercles as an effect; to seize the link which exists between these alterations. Pneumonia, indeed, is so common a disease, that, were the theory which attributes tuberculization to inflammation true, observation would soon establish it on so incontrovertible a basis that no one could refuse to submit to conviction. This, however, is not the case. Not only has the existence of any connection between the two alterations escaped the notice even of those who were guided in their researches by preconceived theoretical ideas, but the labours of Bayle and of other pathologists prove that pneumonia cannot be considered as having any connection with the generation of tubercles in the lungs. Bayle has conscientiously examined this question; and the opinion he has adopted is based on such solid researches, that it is surprising it should again have to be discussed. This celebrated physician opened a great number of patients who had died of chronic latent pneumonia, and always found the lungs hepatised,—carnified, but never the seat of tubercles. We may also remark that epidemics of pneumonia are by no means rare in the history of medicine, and that, were the opinion we are combating correct, after

such an epidemic a great proportion of the inhabitants of the locality where it has raged would have become phthisical. No author has, however, stated this to have been the case in the epidemics which he has described. M. Lugol even hesitates to allow that pneumonia tends to increase tuberculization in the pulmonary tissue; without giving a decided opinion on the subject, he states that in his autopsies he has generally found discrete tubercles to coincide with intense pneumonia. It is worthy of remark, too, that the theory which attributes the formation of tubercles in the lungs to inflammation has been often adopted and defended by pathologists, who would never have thought of attributing the generation of tubercles of the liver to hepatitis, of tubercles of the spleen to splenitis, or of tubercles of the brain to encephalitis, although the same law necessarily presides at their formation.

SOME
PHYSIOLOGICAL REFLECTIONS
ON
THE NATURE AND TREATMENT OF
ANGINA PECTORIS,
AND OF ANALOGOUS STATES.
BY T. WILKINSON KING,
Lecturer on Pathology at Guy's Hospital.
[For the Medical Gazette.]

Palpitation—is not hypertrophy or sympathy, but distension (as dyspnœa). It is made more evident by hypertrophy. It may depend solely on the right ventricle, or on the left. Its occurrence in various different states of the body.

THE account of angina would not be complete without some distinct consideration of palpitation; and we feel it still more necessary to pursue the study of the labouring heart to this last step, in order to shew that the opinions we have been engaged in maintaining may at least pretend to completeness as well as to general application. We do not feel satisfied with the views we have hitherto met with of palpitation, and we conceive that a fresh discussion of the topic is desirable for its own sake, as well as for the fuller elucidation and corroboration of our previous reflections. We shall consider that palpitation is the disturbed pulsation of an enfeebled and over-distended ventricle—that it depends on undue afflux or obstruction, in combination with debility or dilata-

tion, of the cavity—that these causes may co-operate in various proportions—and that they may also concur with various other incidental sources of the same kind of disturbance, as, for instance, cachexia or exertion. These opinions we propose to establish and illustrate by reference to a pretty extensive set of remarks, with little pretence of novelty, unless, indeed, it be in the simplicity of the explanation contended for.

Difficulties and exceptions will not be left altogether to explain themselves, though some may not appear to be accounted for without a little reflection on the general plan of the present views. Much of palpitation has been imputed to hypertrophy of the heart, and much to nervous sympathy; and we shall not directly oppose either of these opinions, although we hope to confine their application to much narrower bounds than has hitherto been done.

One object of the following pages is to make it appear, that hypertrophy of the heart has nothing of necessity to do with the existence of palpitations (except that the thicker heart may sometimes render them more considerable), but that in every case, nervous or not, dilatation or distension of a ventricle is an essential constituent of palpitation—an overburthened or inefficient cavity disturbed.

Should we only assist to lead the way to the determination of exceptions to this rule, we trust that our effort will prove neither useless nor trifling.

Palpitation, then, we suppose to be synonymous with temporary distension or dilatation, sometimes caused by excessive accumulation, sometimes resulting from diminished power of contraction, and still oftener from the co-existence of these in different degrees. It does not seem by any means necessary that permanent dilatation should exist, any more than hypertrophy; and yet it is plain, that more or less of these changes are likely enough to be produced.

The capacity of the ventricles varies according to the quantity of circulating fluid, the force with which it is poured into them, and the facility with which it escapes.

The power of the heart is, doubtless, in a manner regulated by its nerves; but we are not to lose sight of its daily dependence on nutrition also.

Moderate degrees of hypertrophy (as also simple angina with a powerful heart), present no appreciable palpitation, unless rarely, and during a transitory attack, because the ventricle affected is little prone to undue yielding; and palpitation may also be absent in severer cases, so long as distension and feebleness are absent.

In young persons, especially in females, and at all ages after enfeebling disorders, exertion greatly accelerates the pulse, and almost as readily induces palpitation, for the reason that the enfeebled heart too easily dilates under the afflux of blood and the delay of arterial obstructions.

The dyspnœa, so speedily brought on under similar circumstances, is but another example of sanguineous fulness, although in another part of the circulation, and rarely commensurate, in an exact degree, with the cardiac affection.

It is observable enough in various affections of the heart—as in dyspnœa, that diminution of the fluids, even locally, will obviate disturbance very directly.

It is not to be forgotten, that a very feeble heart, or one greatly oppressed, may cease to be able to palpitate perceptibly.

When dyspnœa occurs in the absence of cardiac disturbance, we may safely infer that the turgescence is in the lungs or tubes; and when palpitation is marked with little or no dyspnœa, we should conclude that there is but little disposition to yield in the respiratory capillaries: as far as the right ventricle is concerned, the over-distended cavity admits of reflux, and thus the lungs may be spared; but the left ventricle, if oppressed, does not allow of an easy transmission of the contents of the pulmonary veins.

We conceive it is not true that hypertrophy is a cause of palpitation. The labour of the more massive heart may well be the more marked, but it is the labour which leads to the hypertrophy. Aortic disease is the prime cause of hypernutrition of the left ventricle; but it is to be remembered that even a feeble cavity, which may only have yielded to sudden accumulation, makes exactly the same kind of claim to increased nutrition as the ventricle which is distended by arterial obstructions; yet it is equally to be remem-

bered that the distension and nutrient force must bear very varying proportions in different cases: they must oscillate and alternate almost incalculably; and thus exertion and debility will tend to dilatation, while ease and nutrition may restore the organ; or the commingled influence may lead to hypertrophy, with more or less of dilatation, as of palpitation. It must be left for those physicians who can, to explain how nervous irritation may induce hypertrophy of the heart, and how hypertrophy of the heart can persist when all unusual obstruction is removed; and how hypertrophy is to be cured without removing the impediments which gave rise to it. How, in short, it is possible for the left ventricle to become more strong without increased exertion from delay—how hypertrophy can be dispensed with in such a case, and how the hypertrophy can be kept up without obstructive causes. But we are exceeding our present proper limits.

Those who imagine that palpitation is hypertrophy, will have to explain how it is that the first is transitory and variable, while the latter is permanent; and still more will they be required to shew why palpitation may be induced in any person, as well as so casually, and even evanescently, in delicate individuals.

The following is too common a case of fatal disease to be introduced, but for the sake of appending a comment.

April 2d, 1835.—Robert M., æt. 28, having been ill two months with catarrhal symptoms, was treated rather actively; but did not appear to be in an alarming state until five or six days before his death, when distressing palpitation was noticed.

The pericardium was obliterated by close and firm cellular adhesions.

All the cavities of the heart were greatly dilated; the left auricle most so, and the left ventricle least. The ventricles were moderately hypertrophic, but the auricles were less so. The mitral orifice was somewhat larger than a waistcoat button-hole. The aortic valves were somewhat thickened, but acted well. The substance of the ventricles was decidedly loose; and the surface rather fat and pale, and mottled with injection.

There was much pulmonary obstruction. A flattened left bronchus, nutmeg

liver, fleshy spleen, and tumid kidneys, were also noticed.

Now here are dilatations, with a left ventricle whose efforts are regulated by a narrow mitral. Can we consider the palpitation as dependent on hypertrophy of these adherent and diseased ventricles?

July 19th, 1836.—Charles M., æt. 30, had had some palpitation for two years, anasarca four or five months, and dyspnœa to a troublesome degree for a month or two.

There were considerable dropsical effusions in almost all parts. The heart was very greatly enlarged, and the right side in particular distended, the ventricle being of moderate thickness. The left ventricle was very wide and hypertrophic. The two anterior aortic valves were blended in one, probably congenitally. The aorta was large, and slightly atheromatous.

Here we find a cause of delay in the circulation, giving rise first to palpitation, and subsequently to dyspnœa. It is true there was hypertrophy with the dilatation; but certainly palpitation does not accompany simple or concentric hypertrophy in its milder states. Simple hypertrophy after death is, however, not a proof of the absence of distension or fulness before death; for while the hypertrophy implies obstruction, it also affords a manifest explanation of the means by which accumulation in death is obviated.

We may soon perceive that the two sides of the heart are concerned in different ways and degrees in different cases; and in this way it is made evident that the palpitating movements are especially dependent on the contents of the particular cavity, and not on the entire organ.

Independently of these considerations, however, if it be true that palpitation may depend on one ventricle in particular, the fact will readily be admitted as worthy of attention.

The following cases are conclusive enough in proof of palpitation in the right ventricle more especially. Tacconi's case, to which we have referred at page 691, is a fair illustration of pulsation in dependence on the right ventricle, which is described as having, as it were, exchanged characters with the left; and the palpitation is described as being on the right side of the chest.

The following is a similar instance.

A lad of 18, of slender make, and described as healthy, excepting that exertion disturbed his breathing more easily than others, became still more than previously susceptible of catarrh and obstruction, from the age of fifteen. He was from that time incapable of employment even in summer. Livor and orthopnœa became manifest. Palpitation distressed him as he was falling asleep or awaking; and when these symptoms had varied for many months, hydrops came on, and a sudden aggravation proved fatal.

The chest, before examination, was strikingly small and round. The heart was extremely large and broad, the right side being principally affected; and the ventricle extremely capacious and thick. The orifice of the pulmonary artery was narrow, measuring only two inches and a half in circumference, and there was atheromatous deposit beneath the lining of the artery throughout the ramifications. (See preparation in the Guy's Museum.)

The left auricle appeared considerably dilated and thickened. The mitral valve was in part occupied by a mass of ossific matter, partially denuded, and the opening was reduced to a circular aperture, in a flexible thick membrane, which would scarcely admit more than the point of the little finger. We judged that it could not have closed ill. The aortic orifice was narrow, its circumference being two inches and one-eighth.

The lungs were tough, crepitant, and of small extent. Parts were mottled red; and there were two or three firm recent apoplexies, as large as filberts.

The left bronchus was found much flattened, and many tubes appeared dilated and filled with mucus.

The larynx and trachea appeared like the parts in a lad of ten or twelve years of age; and the lining, though neither dark nor thick, was less clear and thin than it should have been.

The liver was large, dark, and indurated.

REMARKS.—This lad, though apparently younger, was between eighteen and nineteen, and his frame was badly developed, in great measure, perhaps, owing to the long obstruction in the mitral valve; yet the form of the chest, and the size of the larynx most particularly, indicated defective con-

genital proportions; for it is to be remembered that the thoracic difficulties and exertions might be expected to excite development in these parts. Notwithstanding the great force exerted upon the pulmonary artery, for instance, it was decidedly too small.

The small size of the aorta might be alone explained by the diminished impulse; yet, in comparison of its ventricle, it also was too narrow.

The right ventricle seemed larger than a healthy left ventricle; and without supposing congenital or very early obstruction, we know of no sufficient cause for its great size and thickness. This part doubtless was the seat of palpitation. The labour is said to have arisen occasionally during sleep, when probably the part received much, and the declining respirations would allow only of diminished transmission by the pulmonary artery. If it be true, as stated, that the palpitation was at times excited on waking, we may refer it to casual exertions of the limbs, and consequent acceleration of venous circulation—the sudden oppression of an ill-nourished ventricle.

The following case is from the notes of Dr. Hodgkin, and the right ventricle again is the part in fault.

A boy of 18 had had from infancy dyspnœa and palpitation, with lividity. Dropsy supervened with the latest aggravations, and he died suddenly.

Besides some general effusions, the lungs were found, though crepitant, remarkably firm, tough, and fleshy. The serous surface of the right auricle betrayed signs of inflammation (from distension) in the form of numerous small flocculent elevations, of an opaque whitish colour.

The right ventricle was more than double the size of the left, which was rather small than otherwise. The walls of the two cavities were of equal thickness.

The right auricle was thick, and the tricuspid curtains also, their cords being in parts contracted, which are indications of old inflammatory action. The pulmonary artery was dilated, and the corpuscula of its valves were excessively developed by undue exercise.

The mitral opening was much and rigidly contracted, and greatly thickened, while its cords were extremely shortened. The aorta was extremely small. The parts in the abdomen were

much congested, and the liver indurated.

REMARKS.—This, in comparison with the preceding case, may assist to corroborate the reflections which are appended to it. We are unwilling to suppose that the aorta was of natural dimensions, even before the contraction of the mitral valve; but rather incline to the idea that the impeded left ventricle may have first deranged the mitral cords.

Was not the palpitation again on the right side? And again, was not the sudden death begun, so to speak, in the same part, or in the pulmonary circulation?

The next case is one of heart disease, palpitation, and dyspnœa, and likewise of sudden death. The part palpitating is scarcely uncertain; and the consideration of a few particulars may not be unprofitable.

An auctioneer, æt. 38, from a child subject to dyspnœa, and capable of little exertion, usually benefited by gentle motion in the air, and always better in summer. After a few weeks of catarrh, was carried off, while at the water-closet, in a fit of dyspnœa. The face had long been purple, and the beat of the heart strong, wide, and rather quick and full, more particularly to the right of the region of the heart.

The body appeared markedly pigeon-breasted, and somewhat dropsical. Each pleura contained a pint of fluid; the lungs appeared emphysematous. The right ventricle was very large and thick, the pulmonary artery being dilated. The left ventricle was but a little enlarged, and the aorta appeared decidedly narrow.

There was but little appearance of disease in the abdomen besides some serum and softish fibrine in the cavity. The kidneys and liver were too firm.

REMARKS.—We must conclude that this was an instance of congenital impediment; and we are inclined to compare it with a former case, regretting that the larynx is not mentioned. The small size of the aorta, and the state of the left ventricle, oblige us to suspect some impediment there; and yet the nature of the whole disease denies the supposition that the left ventricle was not pretty well nourished and efficient.

The very thick right ventricle does not occur unless from some cause which operates on the cavity before it has lost

its congenital proportions; and for this reason the valve, as a safety valve, does not attain its usual development, though still an imperfect valve. The same applies to the crescents of the pulmonary artery: as well as the vessels they become too strong and too unyielding. Thus all the valves of the right heart acting too closely, and called to great exertion by the stronger cavity, incline to the disorders as to the anatomical characters of those in the left heart.

The relief which this patient derived from warmth depended on the increased freedom of all the functions; but the benefit received from gentle exercise points forcibly to the relief of the aorta and left ventricle, and the lungs, by the augmented transmission of arterial blood to the limbs and muscles.

The livor, without any communication between the two sides of the heart, was attributable to the obstructed circulation, especially in the lungs.

Did this man sink through the failure of the right ventricle, or should we suppose that the lungs, suddenly oppressed, failed to transmit blood, and that so the patient fell as in a swoon?

We may find another opportunity to extend the proofs of the preceding views of palpitation, and to comment on the more received opinions; but it does not seem necessary to extend the present communication for these purposes.

It is to be remembered that, in proportion as the right ventricle is in a state to be the suspected cause of palpitation, so, generally speaking, the left is likely to be left secure from all accumulation, and difficulty, and laboured action.

It seems to be a legitimate question, whether the fatal arrest of functions can begin in the right side of the heart, *i. e.* whether the right ventricle, for instance, may be the first to stop.

After having established the fact that palpitation may be confined to the right side of the heart, it would be satisfactory to do the same for the left; but the difficulty consists in this, that accumulation cannot take place to the left without extending to the right. It is certain, however, that the left is subject to the same causes, and that these occur in the ordinary cases of palpitation. Other considerations will also be found to favour the inference that, at times, the circumstances of palpitation are greatly, if not exclusively, in opera-

tion in the left ventricle. The palpitation of aged females, for instance, with whom the heart is weak, and the safety valve is in excess, is a strong case.

Doubtless, to put a suppositious case, if there be a palpitation of the left ventricle solely, we should expect it with a simple and transitory aortic obstruction, in a person with the most free lungs and safety valve. An enfeebled or yielding heart would add to this.

We may often strongly suspect that the simplest form of palpitation, which supervenes in bed, is connected chiefly with the right ventricle, and the gradual decline of the respiratory actions.

We have heard only of the instance of a young woman affected with palpitation and fainting on reaching the top of the stairs; and we venture to surmise that this might result from excessive reflux from the right ventricle.

There is an explanation of a very uncommon case of sudden death, which we suppose may deserve an inquiry in this place.

When a man has received unawares a blow on the epigastrium, and falls dead, may it not be that the sudden impulse of blood into the right ventricle paralyses its walls? or shall we suppose that a violent afflux into the lungs overwhelms their function?

Which is the more evidently subject to violence—the cava, or even the aorta, or the cœliac plexus?

The compression of the belly induces the want of an inspiration as much as sudden exposure to cold; and both alike drive blood into the right heart and lung.

A stream of cold air corrugates the skin, and empties the superficial blood-vessels, whether large or small; and it is not very apparent that more of sympathy is concerned in causing micturition at this time than the additional fulness of the belly, and consequent compression of the urinary bladder, which induces uneasiness. In the chest the sympathy begins with the *besoin de respirer*.

It would be difficult to bring our remarks on palpitation to a satisfactory conclusion without a rather full reference to the safety valve: we shall therefore, for the present, resign the subject after a few casual observations.

The palpitation which is gradually induced by steady exercise seems most

certainly to involve both ventricles, and of course the action of the left will be most perceptible. Mitral valve obstruction, or pulmonary obstruction, must act only on the right heart, and possibly now and then a sudden exertion operates first on this cavity.

There is a fatal syncope which occurs rarely in the tardy convalescence of severe fevers, upon suddenly sitting or rising up, and which might perhaps be imputed to other vital organs; but when we consider that the cases are among those in which deterioration of the heart is manifest to the morbid anatomist as well as to the clinical observer, by palpitation, &c.; and when we reflect that the simple change of posture may act so severely on a weakened heart, and that very sudden deaths do not commonly depend on the brain, we may more correctly incline to the opinion that the failure has been in the heart and arterial circulation dependent on it.

The object for which we have entered upon the present views has been to enforce the physical circumstances of angina, rather than to dwell upon nervous influences. It is not our aim to set aside the difficult subject, but we shall content ourselves for the present with the hope that the path is now somewhat clearer for the nervous pathologists.

We have a remark or two to offer with regard to the agency of anger and of fear.

With respect to the latter, the first effect of the mental oppression, if severe, appears to be a general relaxation of the voluntary muscles; and the result upon the vascular currents seems to explain the pallor, and even the syncope, sufficiently. May it not be supposed that parts of the brain partake of the colour of the cheek? In anger, as in the reaction of fear or surprise, the flush seems an approach to apoplexy; the general and simultaneous increase of muscular tension is analogous in its effects to what has been said of exertion. As in repletion, the afflux of blood to the heart rapidly calls for augmented respiratory and circulatory efforts, and it is well if all parts are prepared to take up their share in the hasty revolution.

It is surely unnecessary to shew that the palpitation of delicate persons and others, in exercise, is produced in the

same way as we have explained the rise of palpitation from fear or anger.

A young patient, affected by circumstances of exhaustion and declining health on account of various ailments, will describe, as I have observed, the following symptoms:—"The smallest thing alarms me, and I tremble and grow pale, and my hands become quickly bedewed with moisture; my heart flutters inordinately, and then of course I become flushed, and the consciousness of this, in the presence of strangers, only aggravates my distress." Now, it would be better for the reader to rely on his own observation than my account of the above; yet here is much of the secret of palpitation to be unfolded: first, a tendency to syncope; the mind and the vascular system failing under the effect of the unopposed gravitation of the blood; then the heart transitorily oppressed through excessive afflux (the result of delay) and its own inefficiency through impaired nutrition; and finally, a reaction of the heart with attendant capillary *actions*, as we are wont to call them.

The same patient will describe palpitations as readily excited in the recumbent posture, and even after long repose; and I make little doubt the explanation is only parallel to the whole course of these reflections: the sudden afflux of blood to the heart and some arterial impediments must overburthen the enfeebled ventricles; and it is to be well remarked that all consciousness of mental impressions or disturbance is often wanting; and we know that small efforts are at times quite equal to the effect.

[To be continued.]

ON THE TREATMENT OF FOREIGN BODIES IN THE EYE.

By WILLIAM W. COOPER, ESQ.

[For the London Medical Gazette.]

As my object is to present to the profession papers of practical utility, I have reason to think that a few observations on the above subject may not be unacceptable. The removal of foreign substances from the eye may not at first appear to be a matter of much

difficulty, nor in fact is it so ; but yet it is a proceeding which, unless conducted in a neat and skilful manner, is likely to cause much suffering—to give rise to considerable irritation of the eye ; and may thus, whilst it affords the surgeon much annoyance, serve to injure him, by lowering him in the estimation of the patient and his friends.

It is by no means uncommon for blacksmiths, iron-founders, and those employed in the turning and working of metals, to have particles of such substances, frequently in a state of ignition, fly into their eyes ; and sportsmen are liable to similar injuries from fragments of copper caps.

The first thing to be done in such a case, is to ascertain the position of the foreign body. The sound eye should be bound up, and the patient placed in a good light. The surgeon will then draw down the lower lid, by pressing the skin of it against the margin of the orbit, and will carefully examine with the naked eye (or still better, a lens) the surface of the organ, and the inner surface of the palpebra, especially directing his attention to the fold of the conjunctiva, at the point of its reflexion : at the same time desiring the patient to look in different directions. Should the particle not be perceived, it will be necessary to evert the upper lid ; and this proceeding, I may remark, requires some degree of dexterity to do it with neatness and dispatch, whilst much irritation is sure to arise from bungling and clumsy attempts.

A firm hold should be taken of the ciliæ of the lid with the forefinger and thumb of one hand, whilst with the other a probe, slightly bent, is placed with its concavity corresponding to the upper margin of the tarsal cartilage. If the probe be then pressed downwards and backwards against the surface of the eye, and the lid at the same time raised by means of the ciliæ, it will be everted without difficulty, and the inner surface exposed.

A similar examination should then be made to that already described, attention being again directed to the conjunctival fold.

It may happen that the foreign body—especially if it be a sharp angular particle—has become impacted in the conjunctival membrane, or even imbedded beneath it ; in the former case it may be picked out in the manner

which will be hereafter described when speaking of injuries of the cornea. If it be large, or tightly impacted, it will be preferable rather to enlarge the opening than to persist in fruitless efforts to extract it without doing so ; but if it is actually beneath the membrane, the mode recommended by Mr. Middlemore, of Birmingham*, may be advantageously adopted.

That gentleman advises that the fold of conjunctiva, which includes the foreign body, be raised, and cut away with a pair of convex-bladed scissors—a practice which he describes as being extremely successful, and which is certainly more simple and less likely to prove injurious, by producing irritation, than attempts at cutting down upon the foreign body would be.

If it has become impacted in the substance of the cornea, the surgeon will stand behind the patient, who is seated in a chair, and direct him to lean his head against his (the surgeon's) chest. He will then secure the lids with one hand, by pressing the inferior against the margin of the orbit with the middle finger, and raising the upper with the fore-finger. He will next desire the patient to look steadily at some object, and seizing an opportunity when the eye is fixed, will carefully and lightly pick the fragment out of its bed with the point of a cataract needle. It is to be borne in mind that such particles of metal frequently leave a stain ; but it is better not to scrape this too much, lest, by so doing, subsequent inflammation be produced ; or, indeed, the anterior chamber may be opened, and a prolapse of the iris take place.

Severe inflammation occasionally results from these fragments of metal being permitted to remain in the cornea, although they sometimes produce but little uneasiness. This, in a great measure, will depend upon the constitution and habits of the individual : if he be robust and plethoric, or of intemperate habits, violent inflammation will in all probability arise, accompanied with opacity of the cornea : suppuration between its layers, and pus in the anterior chamber. The following case is a good illustration of the subject :—

B. Gardner, æt. 23. A pallid sickly-looking man, a shoemaker by trade,

* In his excellent and most elaborate work, "A Treatise on the Diseases of the Eye and its Appendages."

presented himself on the 2d of July with a particle of iron imbedded in the substance of the cornea of the right eye towards its centre, in which situation it had remained for six weeks! The palpebræ were much swollen and congested; the conjunctiva, sclerotic, and cornea, intensely inflamed; there was pus between the layers of the cornea around the foreign body, and a considerable quantity in the anterior chamber: the aqueous membrane was so turbid that nothing of the iris or pupil could be discerned.

I extracted the fragment of iron with a cataract needle without difficulty, and the beneficial effects of the following mild treatment (mild, because the patient being in a state of great debility more severe depletion would have defeated our object) was speedily visible* :—

Hirudines ij. oculo dextro. Hydrarg. Chloridi, gr. iv. statim. Infus. Sennæ c. Magnes. Sulphat. post horas sex. Pulv. Doveri, gr. vi. omni nocte. Sodæ Sulph. pro re nata. Fetus. Tepid. Papav. Moderate meat diet.

July 9th.—Much better; the pus has entirely disappeared both from the anterior chamber and also from around the wound; the cornea and aqueous membrane have lost their inflammatory character, and are rapidly recovering their transparency. There is, however, yet a good deal of scleratitis remaining.

R Pulv. Cinchonæ c. Sodæ Sesquicarb. aa. gr. v. ter die. Empl. Lyttæ pone aurem dextram.

July 13th.—Nearly convalescent, and much improved in his general appearance. The inflammatory symptoms have left the eye, and an opacity of the cornea, marking the spot of the injury, alone remains. Foreign bodies are sometimes driven with such force that they penetrate the cornea, and rest in the iris or anterior chamber. Such injuries are very serious: if the body is large we should endeavour to remove it either through the wound, or if that is not large enough to admit of its free passage, through an opening made in the cornea about a tenth of an inch

from its junction with the sclerotica. Small fragments of iron (as for instance the points of cataract knives, which have been broken off in the operation for extraction) occasionally become oxydised and disappear, without giving rise to much irritation, or they may become encysted in lymph thrown out by the iris. It is inflammation of the latter body we have most to dread, and every means should be taken to avert it.

I may here allude to the treatment of ecchymosis, or blood extravasated between the conjunctiva and sclerotica, which is a very frequent consequence of injury to the eye from violence, or may arise from coughing or any violent exertion. As it produces a very unsightly appearance, the patients are naturally anxious to get rid of it as soon as possible. In the first stage, whilst the blood is fluid, the application of cold and the erect position should be recommended to favour the contraction of the vessels; the next step is to promote the absorption of the coagulated blood, which may be done by the application of leeches to the lids, and the use of a lotion of sulphate of zinc; two grains to the ounce. When the extravasation is extensive, Mr. Tyrrell recommends a poultice made by mixing some of the black bryony root scraped finely with a little crumb of bread. This is to be placed in a muslin bag over the palpebræ for several hours together, and is very efficacious.

Escharotics, as lime, mortar, and the mineral acids, are occasionally projected into the eyes; and as the effects of these are rapidly destructive, they require corresponding activity of treatment.

In the first place, if lime or mortar be the substance, the eye should be thoroughly cleansed with a tepid mixture of vinegar and water, (as recommended by Mr. Tyrrell), in the proportion of a tea-spoonful of the former to half a pint of the latter: this should be injected into the eye with a syringe with some degree of force, so as to fairly wash out any foreign particles. When acids have caused the mischief, a weak alkaline solution, as soap and water, will be advantageous, by neutralizing (as in the former case) the irritant, and depriving it of its caustic property. Attention must be subsequently paid to the prevention of inflammatory symptoms, by placing the

* In a subsequent paper I shall endeavour to show that violent depleting and local treatment frequently tends to aggravate the inflammations of the eye; and that, under the influence of judicious general treatment, combined with mild local applications and moderate depletion, the most formidable attacks will yield.

patient on low diet, acting upon the secretions, fomenting the eye frequently with tepid water or infusion of poppies, and, if necessary, applying leeches. Indeed, in a full plethoric habit, it may be advisable to abstract blood from the arm.

In such cases, however, it is not alone the immediate effects of the injury we have to fear, but those consequent on the process of reparation. The escharotic will, of course, destroy the vitality of the parts with which it has come in contact, and after a few days the sloughs will separate. Granulations will then form; and if these arise from the opposite surfaces of the eye and the lid, there is great reason to apprehend adhesion of the two membranes: indeed our utmost efforts will at times be unable to prevent this taking place, but we must endeavour to do so by examining the eye three or four times every day, and breaking down, with a probe, any bonds of union which may have formed between the granulations. A solution of nitrate of silver may be also applied; and this treatment should be steadily persevered in until new mucous secreting surfaces have been established.

Nevertheless, in spite of our care and vigilance, the contraction of the cicatrices will at times defeat our object, and incurable bands of union or frænæ result. It is incumbent upon us to do our best; but it will be advisable to prepare the patient for the possibility of such an occurrence taking place, in order that it may not be attributed to any neglect or maltreatment on the part of the surgeon.

In my next paper I propose to point out the means of distinguishing cataract in its early stage from amaurosis or glaucoma, with the characteristic symptoms of each.

No. 1, Suffolk Place, Pall Mall East,
September 23, 1841.

CASE OF RESUSCITATION, AFTER SIX MINUTES' IMMERSION IN THE SEA

To the Editor of the Medical Gazette.

SIR,

IF the following case of resuscitation of a young woman after six minutes' immersion in the sea should be considered

at all interesting, I beg you will give it an early insertion.—I am, sir,

Your obedient servant,

JOHN WICKENS WEST,
M.R.C.S.L., &c. &c.

On Wednesday night last I was sent for between eleven and twelve o'clock to see a young woman, by name of Churchill, who had, in consequence of a quarrel with her husband, thrown herself overboard. Fortunately, a policeman standing at the time on the quay (although the night was extremely dark) saw a female rush by him, and immediately after heard a noise in the water, and concluded the individual was drowning. He gave the alarm, and two sailors came to his assistance, and they succeeded, by means of tackle, in rescuing her. She was removed to a neighbouring house, but apparently in a lifeless state. I was sent for, and arrived in a few minutes. On my entering the room I found the body already stripped of the wet clothes, and immediately ordered it to be placed between blankets, and the chest and abdomen rubbed with flannel by three persons. During the time this operation was going on, I inflated the lungs, and applied brandy and ether to the mouth and nose. After ten minutes' exertion I discovered some symptoms of returning animation, and could just feel the beat of the pulse. This encouraged me to persevere, and in a short time I had the satisfaction of witnessing a rapid improvement; but I found the moment the rubbing ceased that the symptoms were less favourable, and I was compelled to continue the plan for upwards of an hour. I then left her until the morning, when I found she had had frequent vomiting, which relieved her head, and prevented the necessity of venesection. She entirely recovered by the end of the week.

The above case is a striking instance of what might be done with a little perseverance; and having had some experience on similar occasions, I should recommend the plan of rubbing the body to be continued for a considerable time, although the chance of recovery might be very doubtful.

Poole, Sept. 28, 1841.

ON A METHOD OF
RESTORING THE LOWER LIP,

AFTER COMPLETE OR PARTIAL RECISION
IN CASES OF EXTENSIVE CANCEROUS
DISEASE.

*Being the Substance of a Clinical Lecture
delivered last winter at the Glasgow
Royal Infirmary.*

BY ANDREW BUCHANAN, M.D.

One of the Senior Surgeons to the Infirmary, and
Professor of the Institutes of Medicine in the
University of Glasgow.

To the Editor of the Medical Gazette.

SIR,

I AM satisfied, from some correspondence which has lately appeared in your journal, that the rule laid down by the Roman critic, "*nonum prematur in annum*," however well adapted for works of imagination, cannot be safely acted upon with regard to surgical inventions. I have therefore to request the favour of your inserting the following account of a new surgical operation, although little more than half the prescribed period has elapsed since I first devised and performed it. I believe the operation to be new; but in this I may be mistaken; and if any one can shew me that he has performed such an operation before the date hereafter mentioned, I shall willingly admit his claim to priority of invention: and he may, at all events, rest assured that his urging this claim will excite in my mind no ungenerous feeling of hostility, and will not expose himself to insult, or his native country to vulgar abuse. I must apologise for writing what must appear enigmatical to all of your readers, with the exception of the very few who may have taken the trouble to read and keep in mind the correspondence by which these remarks were suggested*.—I remain, sir,

Your obedient servant,

ANDREW BUCHANAN, M.D.

110, St. Vincent Street, Glasgow,
April 5, 1841.

No part of the body is more subject than the lips to tumors, and ulcerative affections requiring to be removed by the knife. In performing such operations, the conspicuousness of the parts

renders it necessary to produce as little deformity as possible. This can only be effected by preserving or restoring, as far as we can, the natural form of the parts. In this way also we best accomplish two other objects—that of not interfering with the action of the lips as organs of articulation, and that of preventing the incessant and involuntary discharge of saliva from the mouth.

When the tumor or ulcer to be cut away is of small size, the practice commonly adopted is, that of making two incisions in the shape of the letter V, and uniting them by the twisted suture. To this operation I can see no valid objection, if, after the diseased parts have been completely removed, the lips of the wound can be brought together without much traction. There is, however, an obvious limit to the practicability of this mode of operating. Whenever there is much of the substance of the lip involved in the disease, considerable traction is required to unite the lips of the wound, and there must be, thereafter, more or less retractive force tending to separate the parts, and tear asunder the newly formed adhesions. In such circumstances the pins or ligatures are apt to excite inflammation and sloughing, and thus force us to abandon the attempt to produce adhesion. Still farther, even if we have succeeded in producing adhesion, the deformity may be considerable, and the cicatrized parts, from the traction to which they are subjected, and from pressure upon the gums and teeth, are apt to suffer from ulceration.

A mode of operating, which was much employed by Dupuytren, consists in simply removing the diseased parts by a semi-elliptical incision. The deformity produced in this way is much less than might be anticipated, as the action of the muscles in the substance of the lip, and the contraction of the wound, tend gradually to bring the cut surface to the level of the adjacent parts. In all mere affections of the prolabium, and generally, in all cases in which the lateral extent of the diseased parts is much more considerable than their depth, this operation appears to me entitled to preference. When, on the other hand, the disease, whatever be its lateral extent, stretches deeply towards the root of the lip, Dupuytren's operation will be found to produce a defor-

* This apology is now the more necessary, from the delay of upwards of five months which has taken place in the course of transcribing this paper.

mity, which is not obviated by any subsequent elevation of the cut surface; and, if it be the lower lip which has been operated upon, a constant discharge of saliva will likewise ensue.

There are, then, certain cases of disease of the lip to which neither of the preceding methods of operating are applicable. These are, in the first place, cases in which it is necessary to cut away the whole lip; and, secondly, cases in which the disease, though more partial, extends so deeply towards the root of the lip as to preclude the employment of Dupuytren's operation, and to such an extent laterally as to render impracticable the attempt to procure adhesion after the common angular section. In such cases it appears to me to be the best practice to form a lip by substitution from the skin of the neighbouring parts. I propose here to describe an operation by which the substitution may be effected very completely, and without giving much pain, in cases of complete or partial removal of the lower lip; but the principle of the operation may be applied in cases of affection of the upper lip, or of other superficial parts.

The first time I performed this operation was in the year 1835, on a man named Adam M'Gilvray, from Tolcross. He was 56 years of age: he had been affected with cancer of the lip for four years previously. Six months after the commencement of the disease, the scirrhus tumor, of which it then consisted, was removed by the knife. The disease did not recur till about two years and a half after the operation, or twelve months previous to his admission into the hospital, on the 13th of May, 1835. It then consisted of a ragged irregular ulcer, with hard tumified margin, and involved the whole of the left half of the lip, and a considerable portion of the right. On the 20th of May I removed the whole of the lower lip by a semi-elliptical incision; and then proceeded to form a new lip in the following way, which I must explain by reference to the annexed diagram, (fig. 1st), as it could not otherwise be readily understood.

Let the line A A represent the commissure of the mouth, and the semi-elliptical line A B A the incision by which the carcinomatous mass was removed. The new lip was formed by means of two flaps taken from

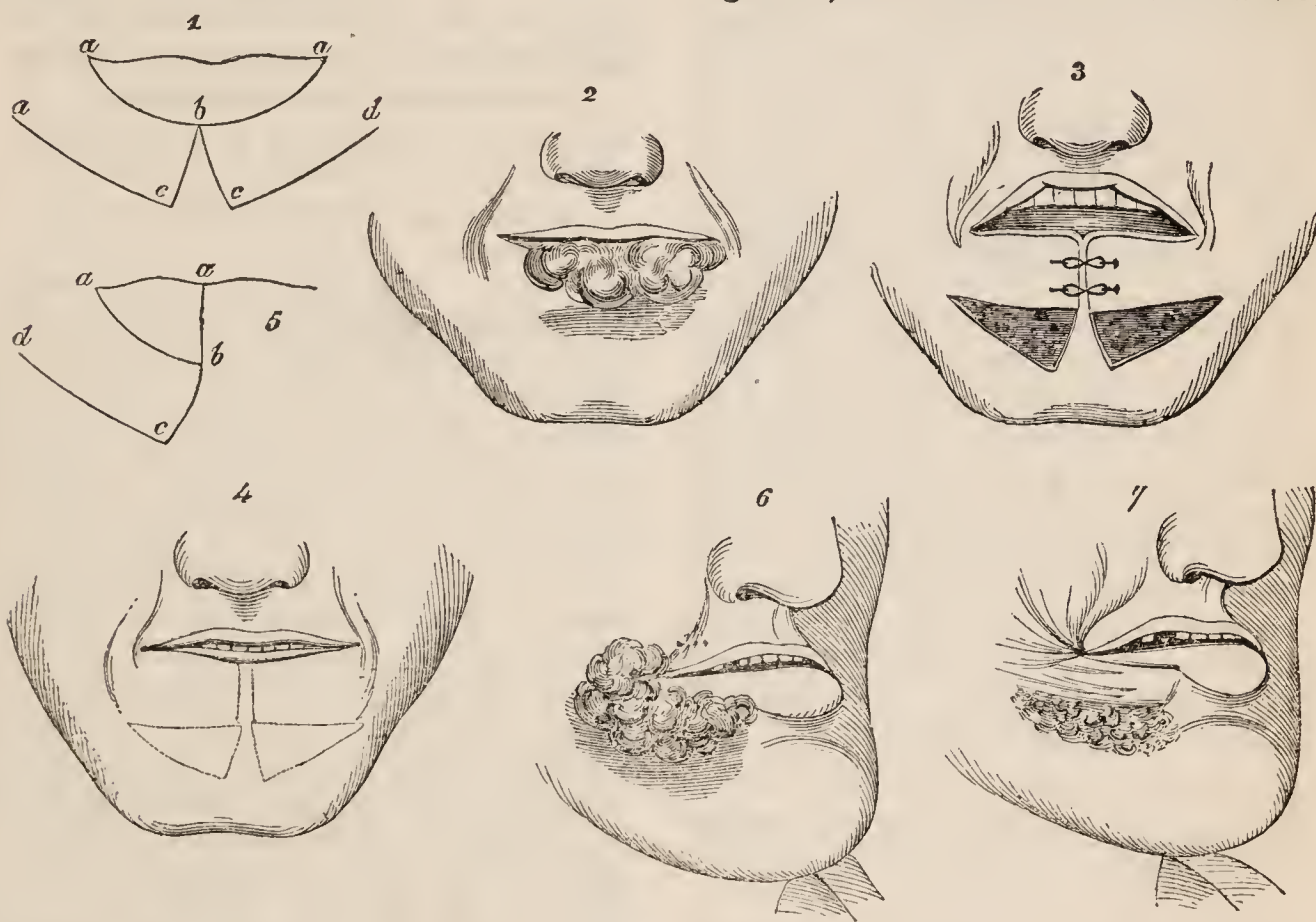
the sides of the chin, each bounded by a curvilinear incision B'C, and a straight one D C. The former incisions commenced exactly in the middle of the operation wound in the mesial line of the face. The straight incision again commenced at a point from half an inch to an inch distant from the angle of the mouth, in a line supposed to be drawn from that angle to the middle of the lower jaw at the same side. They extended, each in a direction parallel to that of the corresponding half of the operation wound, and were continued till each joined the curvilinear incision of the same side at its lower end. The curvilinear incisions were perfect arcs of a circle described with the straight incision D C, as radius. Every point therefore of the curvilinear incision B C was equidistant from the point D, at which the straight incision commenced. In consequence of this arrangement, after the flaps were dissected from the chin and raised upward, so that the upper portions of them occupied the site of the lower lip, the lower portions fitted exactly to the spaces which had been previously occupied by the upper portions. In this situation they were secured by the twisted suture, adhesive plaster, and a bandage; the upper parts of each flap being united together, while the lower parts were united on each side to the summit of the triangular peak B C C, situated in the middle line of the face between the two curvilinear incisions. By the elevation of the flaps, a vacant space was left under each; the deficiency in the region of the lip being, in fact, transferred to the two sides of the chin. In the artificial lip thus formed, there is, as in the natural lip, a protuberance in the middle of the upper margin, as must be obvious from considering that the line A B is manifestly greater than the half of A A, to the level of which A B is raised.

The cure, in this case, was very much retarded; first, by a severe attack of erysipelas, which, fortunately, however, did not occur till the adhesions were nearly completed; and next, by the formation, on the upper edge of the left flap, of a small indurated swelling, which required excision. Nevertheless, the man was dismissed, cured, on the 23d of June. I saw him two months thereafter, when his lip looked very well. The parts were quite healthy, and a

perfect mucous membrane lined the upper margin and inner surface of the flaps forming the lip. Had the man been careful to keep the skin closely shaved, no one could have discovered, unless by near inspection, that there was any thing peculiar about the lip; but as, like many persons in his rank of life, he seemed to shave only once a week, the long hairs, running like the whiskers of a beast of prey, parallel to the mouth, and in opposite directions, on the two sides of the lip, gave to him an aspect not the most prepossessing.

Figures 2d, 3d, and 4th, give an idea of the kind of cases in which the operation is required, of the appearance of the parts at the end of the operation, and of their appearance when the cicatrization is completed.

The only other case, in which I have performed this operation, was that of Daniel M'Divat, who was admitted, as a surgical patient, into our infirmary, on the 17th of October last. He was seventy years of age, and had laboured, for four years, under an ulcerative affection of the lip, which had all the characters of cancer. It occupied the right angle of the mouth, and extended along the right half of the lower lip. Two days after his admission, the diseased parts were removed by an incision, which, after detaching the indurated margin of the upper lip, was made to assume the usual angular direction. In removing the lower portion of the diseased mass, the two sides of the angular incision were brought together, and retained in the usual way,



by the twisted suture. The loss of substance, however, was so great as to render necessary a degree of traction greater than the extensibility of the neighbouring skin would bear. The consequence was, that inflammation supervened, and the lips of the wound burst completely asunder. Towards the end of November the wound had everywhere cicatrized, except at one or two points, where there was an obvious reproduction of the cancerous disease. The diseased parts were now carefully removed, and a perpendicular incision made from the top to the base of the lip, a little to the right of the mesial

line. By this incision, and one of those formed in the first operation, the right half of the lower lip was completely removed. A flap was now formed, exactly as in the former case, and being dissected from the chin, was reflected upward, and united to the left half of the lip, which had been left untouched.

The annexed diagram (fig. 5) will show that this last operation was exactly similar in principle to the former; only, there being but one half of the lip removed, there was but one flap required instead of two. A A represents right half of the commissure of lips; A B, A B, the incisions removing the

right half of the lip; and as before, BC, BC, represent the incisions bounding the flap of which the new lip was to be formed.

In this case, as in the former, the recovery of the patient was very much retarded by an attack of erysipelas of the head, which did not, however, interfere with the newly formed adhesions; and on his leaving the hospital (which he did on the 28th December, 1840), the natural appearance of the mouth was very completely restored.

Figs. 6 and 7 show the kind of cases in which this operation is required, and the appearances of the cicatrization.

I have, more than once, seen an attempt made to restore the lower lip, by dissecting, from the front of the chin, a flap bounded on each side by a perpendicular incision; and drawing this flap, as much as possible, upward, and retaining it there: but the success attendant on these attempts was not great. Mr. Earle, however, mentions a case (*Medico-Chirurgical Transactions*, Vol. xii. pp. 276-7) in which he removed the whole lower lip, and succeeded in forming "a new lip, sufficiently deep to restrain the flow of saliva, by separating the integuments from the front of the lower jaw, and keeping the wounded surfaces apart, until the whole had skinned over." Judging from what I have myself seen, I think the operation described above more to be recommended, as it is not more severe, and fulfils more completely the purposes which it is intended to serve.

RUPTURE OF RECTUS FEMORIS.

To the Editor of the Medical Gazette.

SIR,

IN reading your number for Sept. 10th, my notice was directed to a case of rupture of the rectus femoris muscle, reported by Mr. Grantham—in which he says, he never met with a case of the kind, nor does he know of one on record.

In the winter of 1830, I was summoned in great haste to visit Mr. Jay, aged 75, an inmate of an hospital founded here many years since for the benefit of decayed tradesmen, who had slipped up, and it was supposed had broken his thigh. On examination I

found the injury he had sustained precisely what Mr. Grantham has described; the division of the tendon being close to the patella. I confess I had never seen or heard of a similar case, and referred at the time to many works on surgery for information. I treated it as I should a fractured patella; and in the course of a few weeks my patient (though an old man) quite recovered the use of his limb. If you think this worthy a place in your valuable periodical, I beg you will insert it.—I am, sir,

Your obedient servant,

ROBERT JONES.

Long Melford, Suffolk,
Sept. 27, 1841.

ON THE OCCURRENCE OF INFLAMMATION OF SEROUS AND OTHER TISSUES IN CASES OF ANTHRAX.

By NORMAN CHEVERS, M.D. M.R.C.S.

(For the Medical Gazette.)

ALTHOUGH considerable attention has of late years been paid, not only to the treatment, constitutional as well as local, of furuncular anthrax, but also to its outward anatomical characters, and to the changes in appearance which it is wont to undergo during its progress towards cure, comparatively little advance has been made in the perhaps more important inquiries as to the morbid states of the system and disordered conditions of various organs which usually attend its development, or with regard to the numerous forms of internal disease which, occurring in complication with it, not unfrequently destroy life by the suddenness and violence of their attacks. In the articles which have latterly been published on this disease, the remarks upon its prognosis and its modes of fatal termination are, for the most part, few and extremely scanty; conveying little more than the bare propositions that those who suffer from it are liable to the accession of suppurative inflammation in parts remote from the original disease; while there is danger, when it occupies the back of the head, the throat, thorax, or abdomen, of the inflammation extending to the organs contained within those parts, or to the membranes which form their investures

or their linings. As, then, the observations upon this subject, which we at present possess, are brief and incomplete, and these scattered through numerous short memoirs, lectures, and reviews, a somewhat more ample inquiry into the states of disease which occasionally bring those afflicted with anthrax to painful and almost sudden deaths, may not be unacceptable.

The cases of anthrax met with in private and hospital practice appear to reduce themselves naturally into two classes, which differ from each other less in the external appearances which the disease assumes, than in the states of constitution of those in whom it is developed. In the first class of cases the patients are usually men who have passed the middle age, of gross and plethoric habits of body, and long accustomed to luxurious modes of living; individuals in whom, notwithstanding their apparent robustness, the activity of their circulations, and the state of rude health which they may have long seemed to enjoy, there is not a sufficient degree of vital power and resiliency to ward off the occurrence of phlegmonous or gangrenous inflammations as the results of apparently trivial injurious impressions, either local or constitutional. In these patients, however, the disease is not very liable to prove fatal if met with prompt and active measures at its earliest commencement.

The second or ataxic variety of anthrax (to which the following remarks will be chiefly directed) is one of a much more intractable and dangerous character than the last, but fortunately its occurrence is far less frequent.

Its victims are usually individuals whose diatheses either have been lymphatic from birth, or have gained a marked leucophlegmatic and cachectic character from the long-continued operation of vicissitudes or disease. It is by no means confined to the more advanced periods of life, and appears to occur most frequently to those who have been in the habit of using stimulating food and alcoholic liquors of the more generous kinds, such as wine and porter, at the same time that their employments have required a long continuance of laborious and fatiguing exertion — as charwomen, men employed in warehouses at the docks, &c.; or it may present itself in those who, having once lived luxuriously

and indolently, have been suddenly reduced to situations of toil and privation—as footmen out of place, discarded house-porters, and tavern servants. Persons of both the above descriptions appear to be far more subject to this, as well as to several other forms of idiopathic gangrene, than are those individuals who, although long addicted to intemperance in ardent spirits, remain through life unable, from poverty, to commit frequent excesses in the use of solid food*.

Reserving the consideration of the pathology of asthenic anthrax for a more advanced stage of my inquiry, I shall now allude to the manner in which this disease usually terminates in fatal cases. It generally does so by the occurrence of inflammatory action of a low type in some internal membrane or important organ. The linings of the serous cavities appear to be the tissues most frequently implicated; and, although those nearest to the situation of the carbuncular swelling are liable to become affected first, others at a distance seldom fail to present signs of disease as the malady advances to a fatal close. Again, distant membranes or organs may become extensively affected, those nearest to the external disease remaining perfectly intact. Sir Astley Cooper long since observed, in his lectures, that he had “never seen a patient who recovered from any considerable carbuncle upon the head, as in these cases there is effusion upon the brain, producing compression;”† and although the experience of other surgical writers has not stamped the disease, when presenting itself in this situation, with equal fatality, it is certain that, in common with erysipelatous affections, extensive burns and scalds, and other severe inflammatory states which may occur in the neighbourhood of the nucha, it is ever extremely liable to be succeeded by active symp-

* Another variety of disease commonly appearing in the neighbourhood of the nucha, back, or nates, and often considered as a species of anthrax, is noticed in aged persons who have once been in possession of robust health, and who frequently have not suffered any marked constitutional ailment until shortly before the accession of this disease, which, as it is generally accompanied by extensive arterial lesions of long standing, is probably owing to a state of the capillaries of the affected part, nearly precisely similar to that which precedes senile gangrene of the extremities.

† Lectures on Surgery, edited by Tyrrell, Vol. i. p. 213.

toms of cerebral mischief. Still the occurrence of a carbuncle in a situation very distant from the head may be followed by cerebral affections so severe as to destroy life with greater or less rapidity. An interesting case illustrative of this fact is related by Mr. Ewen in the twelfth volume of the *MEDICAL GAZETTE*. I regret that I can avail myself only of a brief abstract.

CASE.—Mr. G., ætat. 37, whose health had been for some time in a declining state, became the subject of a large carbuncular swelling upon the left buttock. On the sixteenth day after its appearance he was found suffering from severe symptoms of cerebral irritation, becoming towards the evening somewhat delirious. The slough had no disposition to separate; his urine was passed in large quantities, and deposited a very dark grumous sediment. On the morning of the next day he was violently delirious, but later in the day became tranquil under the application of the 'cold douche to the head, and the internal use of wine and opium. About eight o'clock in the evening he jumped suddenly out of bed, and had a strong convulsive paroxysm, but slept after taking Ext. Opii, gr. v. On the following day he had typhoid symptoms, attended by a rapid pulse, hot skin, delirium, dropping of the upper eyelids, and contraction of the pupils. There was also retention of urine: three pints of this fluid, of a very dark colour, were drawn off by catheter. In the afternoon the delirium became more violent, and he expired in the evening.

The body was examined twenty-two hours after death. The brain was considered perfectly healthy; the heart was flabby; the liver pale, but healthy; the spleen appeared softened and disorganized; the kidneys were also softened, but in a less degree than the spleen.

The character of the cerebral symptoms, in this case, must lead to the belief that death resulted from the occurrence of some acute lesion of the meninges or surface of the brain, which escaped notice in the post-mortem examination; this in all probability depending* upon the renal affection, which appears to have been called into activity

a very short time subsequently to the formation of the carbuncle.

The following case, also, appears to afford a direct confirmation of the principle which the last was intended to illustrate, although the changes which led to its fatal termination were of a far more chronic and insidious character.

William Watkins, aged 40, a tall and well-made man, and by no means emaciated, was admitted to Guy's Hospital with a carbuncle on the right side, a little above the lumbar region. A very imperfect history of this man's symptoms previous to his admission could be obtained; but it was evident, from the indurated state of the edges of the sore, that the carbuncle must have existed for a considerable length of time. He was somewhat paralytic on the left side; the paralysis commenced in the foot, but the hand evidently participated in it. It was not learned that he had ever suffered from headache, or had received any severe blow on the head. Two days after his admission he was suddenly seized with insensibility, and shortly expired, evidently labouring under compression of the brain.

Autopsy.—On turning aside the dura-mater slight traces of arachnitis were evident upon the upper and outer parts of the cerebral hemispheres. The right hemisphere was occupied by a cavity nearly as large as a duck's egg, containing curdy pus of a dirty greenish colour. The walls of this cavity were formed of a kind of cyst, and slightly ecchymosed; the brain substance immediately adjoining it was mostly softened, and of a dead white or palish colour. The pia-mater at the base of the brain was infiltrated with turbid greenish puriform serum: nearly the whole of the sub-arachnoid membrane at the base was in this state, which, however, was more remarkable about the cerebellum and medulla oblongata. A small quantity of puriform matter was found in the left ventricle, but it was uncertain whether a communication between this cavity and the abscess had been formed before or after death. The pleural surfaces on the right side were very generally and firmly adherent to each other by old and completely formed cellular membranes, except about the summit of the upper lobe, which was free from attachments: the base of the lung adhered to the diaphragm, and this again to the liver. The

* As was suspected by Mr. Ewen, from the character of the symptoms, previously to the patient's death.

pulmonary structure was very generally but irregularly indurated by an old plastic deposit, completely obliterating the air cells, having a grey transparent colour, and almost the appearance of cartilage. The liver was enlarged, and its acini considerably developed; the spleen large and firm; the pancreas was rather above the usual size, and the kidneys appeared healthy.

In this case the cerebral affection was evidently of far longer standing than in the last: the abscess was of a truly chronic nature; and that the sub-arachnoid lesions were of by no means recent occurrence may be inferred from the absence of any cerebral symptoms (excepting the hemiplegia, for which the presence of the purulent collection in the hemisphere sufficiently accounted,) until a very short time previously to death.* The carbuncular ulcer and cerebral lesions must, in this case, either be connected together in the relation of cause and effect, or be considered as the separate though coincident results of the same constitutional derangement.

It has been briefly stated by M. Marjolin and also by Dr. Copland, that where carbuncle takes place in the neighbourhood of the thorax, "the most severe pleuritic and pulmonary symptoms sometimes supervene from the extension of the inflammation internally to the pleuræ, and thence even to the lungs." Deferring for the moment the inquiry of whether the implication of the internal structures is really, in these cases, entirely attributable to a propagation of the inflammatory action inwards, I shall offer the following cases as marked illustrations of the manner in which anthrax affecting the upper part of the body occasionally proves fatal.

CASE.—J. Foulkes, aged 31, a person of middle height and rather muscular proportions, was admitted into Guy's Hospital, under Dr. B. Babington, on the 13th of April, 1838, suffering from the then prevalent maculated fever. During the earlier part of his life he served in the navy, but for the last eight years

had been a common labourer, working generally in London by the river side. His circumstances had been tolerably comfortable; but his habits appear to have been upon the whole intemperate and dissolute, but much less so since he left sea than before; and he stated that he had never suffered from any ailment more severe than indigestion. He had been exposed for a fortnight to the contagion of fever.

At the time of his admission he presented all the characteristic symptoms of the maculated fever in its least dynamic form. In eight days after his admission the acute stage of the disease appeared to have run its course, having in the interval assumed a decidedly typhoid character, and he remained in a state of great prostration. Gangrene shortly appeared upon the toes of both feet, the debility continued, and he passed uneasy and sleepless nights. Soon after this a large carbuncular swelling formed just above the scapulæ, and, ulcerating in the centre, spread gradually, its edges continuing to be removed by gangrenous action. The petechiæ, which ever since his admission had chiefly occupied the lower extremities, became wider and more dark; the tips of several toes of the left foot grew perfectly dry and shrivelled; and, notwithstanding the free administration of tonics and nourishing stimulants, the state of prostration continued until his death, which occurred on the 28th. About four days previously to this event he had obscure symptoms of pleurisy upon the right side, but these were greatly masked by the accession of signs of cerebral mischief, which at last amounted to a state of coma, in which he expired.

Sectio cadaveris, within twelve hours after death.—There was a good deal of fluid under the pia-mater and between the convolutions of the brain.

The right side of the chest contained nearly two quarts of serum highly tinged with blood, and having very much the appearance of claret diluted with water. The pulmonary and parietal surfaces of the pleuræ were covered with a loose flocculent coating of fibrine deeply stained by the fluid in which it had been soaking; a layer of dark grumous matter covered the pleural surface of the diaphragm to the thickness of more than half an inch. The lower lobe of the lung on this side

* Other cases of arachnitis are upon record in which the patients presented no active symptoms of cerebral irritation, but sank gradually, as if from exhaustion; and where extensive purulent effusion was found in the sub-arachnoid tissue at the base of the brain. An interesting example, by Dr. Carlile, will be found in the fifth number of the Dublin Journal of Medical Science.

was airless from compression; the superior presented lobular infiltration of tubercular matter, and the surrounding lung was highly vascular and rather œdematous. The posterior surface of the left lung presented traces of recent circumscribed pleuritis; a thick layer of fibrine, easily lacerated, and dotted with ecchymosed spots, appearing to have united the opposed serous surfaces to the extent of nearly four square inches: the lung immediately behind this was in a state of red hepatization, and the remainder of this organ was œdematous and remarkably vascular. The heart was large, and rather flabby. The liver was hard, and bore traces of having undergone contraction. The kidneys were soft and congested.

[To be continued.]

ON THE PRODUCTION OF THE ERGOT OF RYE.

BY EDWIN QUEKETT, F.L.S., &c.

(For the Medical Gazette.)

IN the volume of the MED. GAZETTE for the session 1838-39, are inserted my observations on the anatomical structure of the ergot, with a view to the discovery of the cause of its formation, and which, from numerous observations, is attributed to the grain becoming infested with a parasitic fungus, the peculiar nature of which has been there described, and where also it is stated that "the method by which this singular formation probably originates (for at present all respecting this part is uncertain) is that the sporidia of this fungus are by some means introduced into the interior of the plant, and ultimately arrive at the grain, which they find the most suitable matrix for their development."

Since the publication of the above theory, experiments have been made to carry out the view there taken, and which have now succeeded, I conceive, to such extent as to leave very little doubt respecting the subject. The experiments were as follow:—

Twelve healthy grains of rye, of wheat and of barley, (all grown in neighbouring fields in Surrey), were selected, and placed in a plate which contained a little water; some ergots of wheat were then immersed in the water of the plate, and with a camel's

hair pencil brush the sporidia of the fungus adhering to the exterior were detached in numbers, as the microscope proved, and the ergots were then removed.

A similar experiment was performed with the same number and variety of grains, but with the fungus obtained from the exterior of an ergot of a large grass—*elymus sabulosus**: a glass shade covered each set of grains so prepared.

In a few days germination commenced, and was allowed to progress until the grains were beginning to appear wrinkled, from the appropriation of the albumen; and by this time those that had perfectly germinated possessed green leaves from two to three inches in length. In this state the whole of the young plants were taken into the country, and planted close together in the third week of March last.

The greater number of grains, of both experiments, failed in becoming perfect plants, so that, at the present time, when they are matured, there are but four of rye (one infested with the fungus from the *elymus*, and three from wheat), three of barley, and four of wheat. On every plant of the rye there are some ears possessing ergots (nine having been obtained from the four plants), some containing one specimen, others as many as six; but in the barley is only one imperfect ergot, and in the wheat not any have been detected†.

It was remarked that, in the rye, there was only one ear that possessed a few healthy grains and no ergot; in the others, some had ergots without any healthy grains, and the rest possessed neither ergot nor grains of any kind; showing how the fungus probably influences the formation of healthy grains in this plant, whereas, in the wheat and barley, the sound condition did not appear to have been departed from.

If the cause of the ergots, in this instance, had an external origin, it is singular that, as the plants grew intermixed, and in a very small space, the barley and the wheat should have

* The fungus on the exterior of the ergot of rye was not used, in order to ascertain if the ergot of one grass could produce an ergot of the same kind in another.

† I have to regret that some grains of the several grasses were not sown at the same period, quite separated, and not made to germinate amid the sporules of the external fungus, as it would have determined the point more satisfactorily; but this is intended to be done, as I possess more grains from the same sample from which the first were taken.

escaped under the circumstances; but the reason, I imagine, that the latter two possessed no ergots, though treated as the rye, is that they are not so susceptible of the infection; for it is well known that the rye is particularly liable to this disease—more so, perhaps, than any other grass; and that it becomes so, arises either from constitutional properties or its anatomical peculiarities.

I conceive, from these experiments, that the production of ergot from the absorption of the sporules of the previously described fungus, by the fibres of the root of the germinating grains, will be found to be the true cause of this singular production*; and that, when they arrive at the grain, they convert it into the body known as the ergot; for it appears to me too much to admit, in these experiments, that the many ergots on every plant could be the result of accidental circumstances, when it is well known that their presence is very rare in this country on the same grass.

50, Wellclose Square,
Sept. 27th, 1841.

MEDICAL GAZETTE.

Friday, October 8, 1841.

“Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso.”

CICERO.

THE STUDY OF MEDICINE.

WE have little doubt that, by the great number of introductory lectures which have been delivered since we last wrote, the majority of those medical students who have lately commenced the prælectional part of their education have been in no small measure confused and misled. The effect of this kind of lectures is very different from their probable purpose. Their object is, most commonly, to give the

student a very high regard for the importance of a knowledge of each of the subjects taught, in order to his progress in his profession; their effect, if they have any at all, is to convince him that if a knowledge of each is an indispensable condition of success, success is unattainable. Now the error in all this lies, most probably, in a misconception of the ultimate objects of the education of the great mass of students; and in a consequent wrong appreciation of the respective degrees of importance of each branch of medical science in the pursuit of these objects.

We cannot hope for such a system of medical or any other education as will be well adapted to every student: for the objects of all are not alike, but most widely different. The nearest to perfection that can be sought is therefore that which is best adapted to the largest class; especially in medicine, where the largest class are those to whom a careful education is the most essential. It cannot be doubted that a very great majority of medical students have for their common, and almost their sole object, the rendering themselves fit to be safe medical practitioners; nor can the public desire them to have a better. To this, therefore, should every plan of medical education be chiefly directed; and the great problem is this: seeing that it requires a lengthened period of study to learn thoroughly the ordinary practice of medicine and surgery, how much time should be given up to the learning of those things which do not minister directly and constantly to this main object?

Comparing the medical with other sciences, its chief peculiarities are its greater extent, its greater difficulty, and its connection with a most important practical art. Its extent and difficulty are but dimly marked by the fact that its study involves applications of a great number of the most difficult, nay of in-

* Mr. Bauer, in the Penny Magazine for 1833, p. 182, mentions that he has succeeded in causing the sporidia of *uredo fatida* and *segetum* (Smut) to be “absorbed by the roots of the germinative seed corn,” and produce the disease in every part of the plant.

calculable, problems in the physical sciences—in nearly every branch of mechanics and chemistry—in thermotics and electricity; and that to these it adds a whole science peculiar to itself—the science of life. And to physiology, which, in its fullest sense, is the whole body of these combined sciences, there is annexed the practice of medicine—the art, or the science (as it may, with some reserve, be called) of curing diseases. This connection, however, is probably the offspring rather of accident than of any constantly obvious relation, or of any insuperable necessity. Whoever will fairly examine the history of medicine will see that, in all times and circumstances, the practice of the art has been studied separately from the science, though studied, it may be, by the same persons; that the science has often been pursued in the hope that it might minister to the art, rather than because of any positive evidence that it had done so; and that it has only been in recent times, and in the hands of a very few persons, that physiology has laid the foundation of any improvement in medical practice. Through the whole history the art has gone before: the science has followed with slow and unequal steps, and has rarely done more than afford an explanation of facts observed in practice, and strengthen the confidence with which the knowledge of these facts is applied. We repeat, then, the present connection of the extended study of the physiological sciences with that of the practice of medicine, is the result of the accident of the same persons having often pursued both, in the hope that one would aid the other, more than of the former being essential, or even generally useful, in the conduct of the latter.

This conclusion from the history of medicine is abundantly confirmed by what we see around us every day. The

degree in which it is essential that the science and the art of medicine should go together, is to be judged of by the ordinary course of practice, rather than by the seeming and asserted necessity of their connection. Now the plain fact in medicine is, that the science is rarely referred to except sometimes to explain the art: it does not teach men to practise, though it sometimes makes that practice, which is learnt in the experience of the art, appear more reasonable and more scientific than the knowledge afforded by such experience alone could be. In a word, here, as in the history of medicine, the art precedes, and by far precedes, the science. The most successful practitioners are not, except by such an accidental coincidence as rarely happens, the most scientific physiologists; nor the best physiologists the best practitioners; nor are they who are the most philosophic in their theories and their studies, the least empirical in their practice; and they who are best in practice are confessedly those who observe and learn in actual practice, and never allow themselves to be turned aside from the course of observation by any guidance from a less certain science.

This being the case—the art of medicine always going before the science of it, and being in practice in great measure independent of it—it becomes a serious question whether it be wise to run any risk of the study of the art being thrust out by too exclusive an education in the science. We have been long convinced that in medical teaching far too much is attempted: there is a vain straining after making men philosophers, and the end is that they do not learn to be practitioners, except at the cost of those who are first committed to their charge. It is very certain that the great majority of students cannot become good physiologists in three years' study; they cannot

in that time learn enough of the science of medicine to guide themselves, by its light exclusively, in the practice of the art; and yet in the attempt they often sacrifice the time which, had it been devoted to the simple study of disease and its treatment, would have made them good practitioners. We have no doubt that, if it could be strictly ascertained, ten hours would be found devoted by medical pupils to the study of the long train of sciences collateral to medicine, for every one hour that is given to the observation of diseases and remedies at the bed-side of patients, or the study of them by books or lectures.

The question then is, what is the amount of study, other than that of actual practice, which medical students should be compelled to engage in? The answer, we believe, cannot be more definite than that it should be no more than is plainly indispensable. For safe practice it is certain that a knowledge of all the anatomy necessary for the diagnosis of diseases, as far as they are now known, and for the performance of all operations, is essential: the failures in practice will generally bear a direct proportion to the ignorance of this kind of anatomy. It is the same with physiology, in its more limited sense, as the science of the processes of the living body; it is essential that that part of it should be known which is illustrative of the diagnosis and treatment of disease; but, both in anatomy and physiology, it is obvious that that only is essential or useful to the practitioner, which has already been brought into connection with our knowledge of diseases. The rest, including all which is as yet unapplied in pathology, is not essential; and, however admirable some of its facts, however beautiful its generalizations, however full of promise of yielding future and advantageous deductions

it may be, still it should certainly be dealt out with a very sparing hand to those whose object it is to learn within three years as much of the art of curing diseases as may entitle them to the charge of their fellow-creatures' health. The general rule, then, for teaching anatomy and physiology in medical schools, should be to teach thoroughly that part of it which has already found useful applications in medical practice, and, except for illustration's sake, to neglect the rest. There need be no fear that, on this plan, the science would be restrained within too narrow limits: there would still be abundant material for study—far more than the majority would thoroughly learn in the time they can or will bestow upon it; and still an amply sufficient exercise for the intellect.

What we have said of anatomy and physiology will of course apply much more strongly to the other subjects that are not immediately practical. But of these we have already taken so many occasions to speak, that we will now do no more than repeat our conviction that it would be a change replete with advantage if the lectures on chemistry, materia medica, and botany, were all merged in one complete course on pharmacy; which, by giving some parts of each to the lectures on medicine, might easily be made to include all the rest of what is useful in these three courses as they are now delivered.

It is very common to speak of the lectures on medicine and surgery as the least useful and necessary of all that are compulsory. We hold a very different opinion; and believe that, next to those on anatomy, they are, of all, least to be dispensed with. It may be true that there are lecturers whom it is less agreeable to listen to, than it is to read books; but there are many others whose lectures are far more interesting than books, and (as our own pages

have testified) far more instructive than any system yet published. There may also be a few students who can learn more by reading, than by hearing, the same words; but with the majority it is not so; to them a lecture, delivered with spirit and clearness, and (as they ever should be) illustrated with objects that may be seen and handled, conveys more instruction in an hour, than would be obtained by reading for a day. Besides, the knowledge imparted in these two courses is almost all strictly useful, and such as the practitioner can every day apply. Of course such lectures are useless if not associated with the actual bed-side study of diseases and remedies; but so also is even clinical study useless to the great majority, unless they have the guidance of reading, or lectures. It sounds very well to talk of Hippocrates and clinical study, of the fallacy of authors, of John Hunter, and the inutility of reading; but the plain fact, which may be seen every day, is, that very few men are such good observers as not to need to have nearly every thing in medicine pointed out to them before they can see it. Besides that we know nothing of how much those two best of observers learnt by the instruction of others, (though we may believe safely they thus acquired a great deal of their knowledge), yet, if it were certain that they were self-taught, their very eminence proves that all others have failed to learn by endeavouring to follow in their steps. None but a fool would ever think either himself, or the majority of students, wise enough to learn the practice of medicine without guidance in all his early progress: and we believe, from no small experience, that for beginners this guidance is much better furnished by lectures than by books. We therefore can have no hesitation in urging as strict an attendance on the medical and surgical lectures as on those on

anatomy and physiology: provided always, that they are directed mainly to those points which are of present practical importance. If it be true that the main object of medical education is to make good medical practitioners, and that, with the average, this cannot be accomplished unless nearly the whole of the time that can be devoted to study is given exclusively to the study of practice, and the things that most directly minister to it, it must follow that the wisest course is to limit teaching to the things that are of a practical value. And this course is the more to be urged, when it is certain that the subjects thus taught will afford a sufficient exercise for the strongest and most lucid intellects; and that it would be so far from lowering the scientific position of the medical practitioner, that, by giving him an object definite, attainable, and exciting, it would rather raise him from that mere empiricism into which, in despair of finding advantage in the more extended pursuit of science, he is apt to fall. But whether it be adopted or not by those who have the charge of making plans of education, we strongly advise the students themselves to adhere to it as closely as they can, consistently with the security of obtaining their diplomas.

REMARKS

ON

DR. C. J. B. WILLIAMS'S PLAN OF MEDICAL REFORM.

To the Editor of the Medical Gazette.

SIR,

I do not address you with the intention of offering any criticism on the plan of medical reform propounded by Dr. C. J. B. Williams in the pages of your journal, but I solicit a small space in your columns, that I may animadvert on a passage in Dr. Williams's first letter, wherein allusion is made to the conduct of the *licentiate fellows* (as they have been termed) within the walls of the College. On the propriety of con-

stituting the pages of your journal a court of appeal from the decisions of the College of Physicians, I do not presume to offer an opinion. The plaintiff chooses his own court; but, as one of the co-defendants in the cause, I cannot consent that judgment should go against me by default.

Dr. Williams, after stating the words of the resolution which he submitted to the College, (I forget whether it was seconded), adds, "I had reason to expect that such a proposition would be supported by those who out of the College had with myself petitioned Parliament against distinctions which this resolution proposed to remove. In this expectation I was disappointed."

I am quite at a loss to know on what grounds Dr. Williams should have formed such an expectation. Whether the terms of the celebrated licentiates petition admit of its being designated as a petition "against distinctions, which Dr. Williams's resolution proposed to remove," I shall presently inquire; but surely Dr. Williams does not mean to contend that the licentiates petitioned "that the government and acts of the College should be delegated to a council or representative head, consisting of the office-bearers, and a certain number of the fellows or members." Surely he cannot find it written in the bond, "that a third of such council or representative head should be elected annually by ballot of all the members, from those of at least five years' standing in the College."

Of all this there is not one syllable in the Licentiates' petition, (see MED. GAZETTE, vol. xii. p. 649). There is no allusion to a council; no mention of ballot; no limitation to members of five years' standing; no suggestion of the annual election of one-third of this said representative head. The simple prayer of the licentiates' petition is, "that Parliament will institute such inquiry as will lead to the framing of laws by which the evils complained of may be removed." Sure I am that if any attempt had been made in that petition to suggest to the legislature such changes as Dr. Williams's resolution contemplates, instead of exhibiting the signatures of forty-nine physicians, it would not have exhibited the signatures of nine. On what possible grounds, therefore, Dr. Williams could have calculated on the support of the petitioning

licentiates now in the College in favour of his particular plan of collegiate reform, with its machinery of council and ballot, I am wholly at a loss to understand.

Dr. Williams may possibly retire from this position, and entrench himself under the doctrine, that, at any rate, the petitioning licentiates were bound to support the first clause of his resolution, namely, that the distinctions between fellows and members should cease, inasmuch as they had stated in their petition that "there exists no foundation in the Charter, or in the acts confirming it, for such distinction of orders." I acknowledge here a *prima facie* case in Dr. Williams's favour; and it is due to the petitioning licentiates that the apparent inconsistency in their conduct should be cleared up. Dr. Williams is equally interested in this with myself and the other licentiate-fellows; because, if he really believed (and continues to believe) that the existing distinction of orders is illegal, it is difficult to understand on what principle he could have voluntarily gone from the one rank to the other.

It is perfectly well known to the whole profession that the master grievance of the licentiates was the limitation of the fellowship to the graduates of Oxford and Cambridge. Had this unhappy source of schism never existed there would have been no complaint, no petition, no association of discontented licentiates, and much less outcry about medical reform. To do away with that odious restriction the licentiates associated, agitated, and petitioned. That was the prominent grievance put forward in the petition. The repeal of that obnoxious by-law was the *sole* aim of the great majority of the petitioning licentiates. That they were right is abundantly proved by the result.

The particular clause of the petition which I have just quoted was drawn up by the late Dr. John Sims, who, it is well known, entertained a very strong opinion on the subject. That clause as so worded was objected to by several, among others by myself; but I did not refuse to attach my signature to an important petition, merely because one particular clause was worded in a manner not precisely in accordance with my own views. I have never doubted

but that the division of the College into two orders (even though not expressly alluded to in the charter of Henry VIII.) is strictly legal. My objection to the clause, as worded by Dr. Sims, was, that it studiously avoided all allusion to the charters of subsequent monarchs, especially that of Charles II. It may have told the truth, but it certainly did not tell the *whole* truth.

The mere fact of the acceptance of the dignity of Fellow appears to me to be a tacit acknowledgment of the legality of the existing orders and distinctions. The licentiates, then, did not petition Parliament, as Dr. Williams alleges, to *do away* with these distinctions, but to modify them, to render admission to the fellowship open alike to the graduates of Edinburgh and Oxford, to the Dissenters from, and to the members of, the Church of England. The licentiates objected to "invidious by-laws framed in the spirit of corporate monopoly;" and they have been rewarded by seeing those invidious by-laws repealed, and a spirit of liberality substituted for that of corporate monopoly.

I applaud Dr. Williams for the efforts he is making to reconstruct the College of Physicians on a liberal basis. From the collision of conflicting opinions not only is truth elicited, but the public interests promoted. But I hope Dr. Williams will in future permit his colleagues to pursue the course which each in his judgment considers best calculated for the general good, without being tied down, by the terms of a certain petition to Parliament, to that particular scheme of collegiate reform which he himself may think proper to recommend. The charge of deserting Dr. Williams on this occasion was first brought against the licentiate-fellows by the *Lancet*. So long as the accusation was confined to the pages of that journal, it excited in my mind neither surprise nor any wish to defend myself. The case, however, is altered when the charge is reiterated in the *MEDICAL GAZETTE*, and sanctioned by Dr. Williams himself. Regretting as I do the appearance of disunion, it still appeared to me essential to exculpate the licentiate-fellows from the undeserved reproach thus cast upon them.—I am, sir,

Your obedient servant,

GEORGE GREGORY.

31, Weymouth Street,
Oct. 2, 1841.

REPORT OF THE CASES

TREATED AT THE
ARDWICK & ANCOATS DISPENSARY,
MANCHESTER,

BY RICHARD BARON HOWARD, M.D.
Physician to the Institution.

[Concluded from page 61.]

As is frequently observed to be the case, *Hooping-cough* made its appearance during the prevalence of measles and scarlet fever; and many children recovering from these diseases were attacked by it. Several of the cases, indeed, marked in the Table as scarlatina and rubeola, became affected with hooping-cough before they were discharged, but were not again registered as such, to avoid the awkwardness of entering the same patient twice. Out of the 14 fresh cases admitted, 4 died—certainly a very large proportion. But it must be remembered that many of the children were weakened by a previous attack of scarlet fever or measles; and, moreover, that it is only in the worst cases that aid is usually sought at a dispensary—at least when there is any difficulty in obtaining admission. On this account, the mortality which occurs at public charities does not generally afford a true criterion of the severity of an epidemic, because amongst the poorer classes medical assistance is seldom obtained for mild cases, or until symptoms of danger have manifested themselves. Of the four fatal cases, one died from pneumonia, another from tubercular development in the lungs, the third from serous effusion within the head, and in the fourth death was caused by the combined effects of bronchitis and mercurial salivation, accidentally and unintentionally produced.

Influenza prevailed extensively in the district during the latter part of the winter and in the spring, but it was only the severe cases which came under my notice at the dispensary. When healthy individuals were the subjects of the attack, the disease was not attended with any danger, and no fatal case occurred; but it proved the immediate cause of death to several patients already labouring under chronic bronchitis, asthma, and phthisis; and under these heads the deaths are recorded in the table of mortality. Its chief characteristic was, as usual, sudden prostration of strength, with protracted and tedious convalescence. Neuralgic pains of the head and face constituted, in many cases, one of the most distressing and obstinate symptoms. They were most generally relieved by quinine or iron in combination with morphia or hyoscyamus. In some instances belladonna was found useful; but the most certain and effectual remedy was

change of air ; and this proved not less efficacious in removing the cough, when it had resisted all other treatment.

One of the cases classed as *Apoplexy* is singular, from having occurred in a child only thirteen years old ; though, whether it ought properly to be considered as an example of that disease may perhaps be doubted. The following are the particulars of the case ; but they lose much of their interest from the refusal of the friends to allow a post-mortem examination. The patient, a healthy robust girl, without any previous warning, suddenly became deprived of all power of motion in the left upper extremity on the 31st December. The attack was not attended with loss of consciousness, though accompanied with some pain in the head, giddiness, and dimness of sight. The arm was slightly convulsed, and felt numb at the time of the seizure, but when visited (four hours afterwards) sensation had returned. The pulse was 90, rather small ; tongue clean ; and bowels reported as regular. There was no headache, lethargy, or other disturbance of the cerebral functions : there was no tenderness in any part of the spine : menstruation had not yet occurred : the girl had never previously had fits of any kind. She was immediately bled to ten ounces, a purgative of calomel and jalap was given, and a blister applied to the back of the neck. In about ten minutes after the abstraction of blood, the power of motion returned in the affected extremity, and remained during several hours ; but in the middle of the night she suddenly lost the use of it again. This second attack was attended with the same convulsive movements of the limb as the first. When visited in the morning, the power of motion was almost perfectly restored again ; there was no disorder of the intellectual functions ; the pulse was 100, weak ; the bowels had been freely acted upon ; and the stools were dark-coloured and fetid. During the four following days, similar attacks recurred repeatedly. To loss of motion loss of sensation was added, and extended to the inferior extremity of the same side. The hemiplegia now became permanent ; and, though she was perfectly sensible in the intervals, during the fits there was some approach to unconsciousness. On the 5th of January, vomiting came on ; and on the 8th, she began to have temporary attacks of wild noisy delirium ; and both these symptoms continued, more or less, till her death. Except during the paroxysms of delirium, which were very transient, her intellect remained entire ; and no important change had taken place in her state on the evening of the 13th ; but when her attendants went to her bed on the following morning, she was found dead.

The treatment consisted in repeated leech-

ing and blistering, with the free exhibition of purgatives. Calomel also was largely given, but the gums were never affected by it.

The following are the particulars of the case of *Imperforate Vagina* :—Elizabeth Boardman, a florid healthy girl, ætat. 18, a hand-loom weaver, was admitted an out-patient on the 2d November, 1840. Her most prominent symptoms were obstinately-constipated bowels, hæmorrhoids, difficulty in making water, and constant uneasiness in the lower part of the abdomen, attended occasionally with very severe bearing-down pain in the back. The pulse was scarcely accelerated ; tongue clean ; and appetite good. She had never menstruated. Her complaints commenced a year and a half ago, but had become aggravated lately. Purgatives and sedatives were prescribed ; but great difficulty was always experienced in keeping the bowels open. After she had been under treatment about five weeks, without any decided improvement, a tumor, of which she had never made any mention, was detected in the hypogastric region ; and upon inquiring more minutely concerning it, she stated that she first perceived its existence six or seven months previous to her admission ; that it varied in size, but was always largest during the paroxysms of bearing-down pain, which she said recurred with tolerable regularity every month. At these periods the difficulty of making water was also increased, and she was frequently unable to void it except in a standing posture. On making an examination per vaginam, the canal was found to extend only about half an inch from the orifice, and to end in a complete cul de sac. On introducing the finger into the rectum, the tumor could be felt pressing forcibly upon the gut. Little doubt was now entertained that the tumor arose from retention of the menstrual fluid : its situation, the periodical aggravation of the pain, and its bearing-down character, all tended to confirm this conclusion. This opinion was likewise further strengthened by the full development of the mammæ, and the patient having all the appearance of a girl who had commenced to menstruate. The pressure of the tumor readily accounted for the difficulty of voiding the urine, the constipation, and the hæmorrhoids. At a consultation with my colleagues, Dr. Wilkinson and Mr. Dumville, an operation being determined upon, it was performed by the latter gentleman, on the 28th December. After emptying the bladder by means of a catheter, the termination of the vagina was divided by successive incisions, in the horizontal direction, to the depth of about $\frac{3}{4}$ of an inch ; and then the remainder of the obstruction was perforated with a trocar and canula ; the finger being introduced into the rectum as a guide. On withdrawing the

trocar, a dark thick fluid instantly flowed through the canula. It was inodorous, and had much the consistence, colour, and general appearance of treacle. The quantity discharged amounted to two pints. The patient immediately expressed great relief. The passage was kept open by the introduction of bougies, and no bad symptoms followed. The catamenia flowed twenty-five days after the operation, and have appeared regularly since. The difficulty of voiding the urine, the constipation, and hæmorrhoids, quickly disappeared, and the girl is now in excellent health.

This case, it will be observed, was not one of imperforate hymen merely, but consisted in a complete, and no doubt congenital, deficiency of a portion of the vagina, to the extent of about an inch and a half. The urethra and rectum were at this part in close apposition, so that great caution was requisite in the operation to avoid wounding these canals; and the line of incision was in consequence necessarily confined to the horizontal direction, instead of being made in the conical form, as would otherwise have been preferable.

The case of *Scirrhus of the Mamma* occurred in a married woman, 29 years of age. Some months prior to her admission, a tumor had been removed from the neck, and the wound had cicatrised favourably. The disease never proceeded to ulceration, but extended to all the neighbouring lymphatic, as well as the submaxillary and parotid glands, and, in fact, involved all the contiguous parts of whatever texture. The clavicle was quite soft, and completely disorganized. Deposition of scirrhus or medullary matter had taken place to a great extent in the liver, pancreas, spleen, and mesenteric glands.

The death recorded as arising from *Rheumatism* occurred in a woman 64 years of age. She had laboured under the disease in a subacute form for a considerable time, and died with symptoms indicating metastasis to the brain; but a post-mortem examination, to ascertain the correctness of this opinion, could not be obtained.

A CASE OF STRANGULATED INGUINAL HERNIA

REDUCED BY MEANS OF A SUBCUTANEOUS
DIVISION OF THE STRICTURE.

BY M. JULES GUERIN.

WHEN I made known my experiments on subcutaneous wounds, I immediately pointed out, among the applications of which the new method seemed to me capable, the division of the strictures of strangulated hernia. It

was in some measure to chance that I owe the having met with this, my first opportunity, of testing my proposal: I seized it gladly, and the result has completely responded to my hopes.

CASE.—A man, 18½ years old, an apothecary's pupil, moderately robust constitution, and sanguine temperament, is afflicted with an inguinal hernia on the right side, presenting the characters of a congenital hernia, but which, he says, has existed only a year. When five or six years old he had hydrocele, which disappeared spontaneously; but the tunica vaginalis, and the envelopes of the cord, have ever since been swollen, and the latter still appears to contain several small collections of fluid. The hernia first came down in August 1840, when, in carrying a heavy burden, the patient suddenly perceived a small hard tumor in the groin, which came down during efforts, and went back spontaneously when he lay down. He did not wear a truss as he was advised; the tumor gradually enlarged to the size of a nut, but always went back easily; but on the 9th of July, 1841, it suddenly acquired the size of a large hen's egg, and could not now be reduced. On the 10th he had extremely acute pain in it: a surgeon made attempts to reduce the hernia, but without success, and recommended rest and poultices. On the 11th a truss-maker also made useless attempts. On the 12th the patient came to M. J. Guerin, when the hernia presented the following characters: a hard tumor in the right groin, slightly bossed, of the size of the fist, descending down to the testicle. It was evidently contained in the distended tunics of the cord, and was continued upwards by a pedicle as large as the finger, equally hard, capable of being followed by the finger to a certain depth in the inguinal canal, and exactly filling the anterior orifice of that canal. The tumor was painful to the touch; its hardness, and the peculiar sensation which it gave him, made M. G. think that it was formed, if not entirely, yet at least for the most part, of omentum. The skin of the groin was already red, swollen, and very sensitive; but there were no general symptoms: neither hiccup, nor nausea, nor colic. There had been no evacuation from the bowels for three days. A purgative enema was administered, and it produced several motions, but did not diminish the size of the tumor, and in the evening the subcutaneous operation was decided on.

The patient was laid on a bed, with the pelvis slightly raised, the rest of the trunk depressed, and the thighs separated, and half flexed on the pelvis. After having shaved the parts, and carefully ascertained the direction of the canal, and of the pedicle of the hernia, I made a transverse fold of skin, rather more than an inch long, taking

it from the root of the scrotum, and carrying it up to the level of the inguinal ring; then, with a little steel bistoury, about $\frac{1}{8}$ of an inch wide, I made a puncture along the upper part of the pedicle. Into this opening I passed a grooved director, which I gradually pushed in the direction of the canal, keeping carefully along the upper and anterior surface of the pedicle. After some trials I succeeded in introducing it to a depth of about $2\frac{1}{4}$ inches, and I then gave it to an assistant, who depressed the handle of it, so as to make its other end project. I then made a second fold of skin, and at its base a second puncture, a little above the first, and through this I introduced a convex blunt-pointed myotome, whose blade, about an inch long, and $\frac{1}{10}$ of an inch wide, was supported by a blunt stem, about an inch and a half long. The blade was passed into the groove of the director, its cutting edge being turned upwards and outwards, and I then divided, by degrees, the anterior wall of the canal, putting my thumb and index finger upon the part I wished to divide, so as to comprise and depress between them the blade and the corresponding portion of the tissues, and facilitate the division of the walls of the canal by increasing its resistance. I thus arrived at the situation of the internal ring. After this I endeavoured to reduce the hernia; but it seemed that a portion of the external ring had escaped the instrument. I therefore introduced into the puncture a little myotome, slightly concave, blunt-pointed, and with a blade less than a line wide, which easily passed between the pedicle of the hernia and the ring. This time the reduction became apparently easy, except for the hardness and considerable volume of the hernia, which obliged me to go on slowly and by degrees, but immediately that I discontinued my pressure the parts again appeared in the scrotum. I ascertained that the reduction was only apparent, and that the parts were only lodged in the kind of cavity which the subcutaneous wound in the abdominal muscles presented, and that the real obstacle to their reduction was at the internal ring. I therefore, for the last time, introduced the myotome, and divided the internal ring in two parts, directly from below upwards, and transversely from within outwards. The hernia was now reduced with perfect facility. The attempts, which, before the last division, had been continued for nearly three quarters of an hour, were successful in a few minutes. I expelled the air and the blood which were effused in the wound, closed the two openings with plaster, and established a moderately firm pressure upon it, with pads of charpie, and a spica bandage.

Notwithstanding the fatigue from the attempts at reduction, and the operation, the patient was asleep in an hour, and his rest

was not, till the morrow, disturbed by any sign of fever, or any notable pain.

On the morrow there was only a little tenderness in the region of the wound, and along the sac down to the testicle. On the fourth day I removed the dressings. The two little wounds were completely cicatrized, and, with the exception of a little ecchymosis, there was no external trace of the operation, nor any internal sign of it except a slight effusion in the situation of the subcutaneous wound and the hernial sac, which was gradually absorbed. On the eighth day the patient got up, wearing a truss. On the subsequent days we could trace the progress of cicatrization by the gradual changes in the consistence of the new tissues which occupied the situation of the wound.—*Gazette Médicale*, Aout 14, 1841.

[The comments of M. J. Guérin on this case are superfluous. It is enough, to recommend the operation to all who have discernment enough of themselves to judge in what cases of hernia it is applicable; to others it would be dangerous, whatever precautions or rules might be given.]

ON THE RADICAL CURE OF SPINA BIFIDA, BY A NOVEL OPERATION.

BY M. DUBOURG.

A BRIEF recital of the cases in which this operation has been employed by the author, will best explain it, and illustrate its value and its applicability to at least some cases of this generally fatal disease.

CASE I.—A child, 8 days old, had a pyriform tumor connected with the sacral vertebræ, and reaching down to the feet. The vertebral arches could be felt to be deficient from the coccygeal to the lower lumbar region. The child appeared to have moderately good health, and was in other respects well formed. Despairing of affording benefit by any usual method of treatment, the author determined to try first to stop up the communication between the cavity of the sac and that of the spinal canal, and then to remove the sac and the parts immediately adjacent to it. He, for this purpose, first drew off a pint of fluid with a fine trocar, which the child bore without inconvenience. He then constricted the base of the sac (which measured about four inches in its vertical diameter) with twisted sutures. He had proposed to remove the sac as soon as the sutures began to produce mortification; but the child died in two days after the operation.

CASE II.—A little girl, 8 days old, had a tumor with spina bifida, which was about as large as a middle-sized apple, with a narrow neck, under which the arches of one or two of the lower lumbar vertebræ were

felt to be deficient. The rest of the vertebral column was perfect; and the infant was in all other respects well formed and healthy. Its parents, and all the rest of their children, were well made.

An elliptical incision was made round the base of the tumor; but directly its pedicle was cut into, a stream of reddish serum escaped from it and from the spinal canal; and the author then immediately cut through what remained. He next drew the lips of the wound, which was oval from above downwards, forcibly together, and fastened them with four pins and twisted sutures, like those applied to hare-lips: these being carefully and firmly fixed, a bandage was put round them; and the infant, which had seemingly fainted at the instant of the fluid escaping, at once became sensible, and took its mother's breast with as much avidity as if nothing had happened. From the time of the operation all went on well: the needles were removed after four days, and the lips of the wound, somewhat swollen, were found in exact contact. Plaster was then applied; and at the end of a fortnight there was a firm cicatrix, which completely covered in the aperture in the vertebral arches. The author has since repeatedly seen the child; and the cure, at the end of four years, is complete.

An examination of the tumor shewed that it was a cyst filled with fluid communicating with the spinal canal; that it was formed externally by skin, and internally by an expansion of dura mater and arachnoid; but that the greater part of the thickness of its walls was composed of several layers of cellular and adipose tissue.

CASE III.—A little girl, 11 days old (whose sister had died soon after birth, with spina bifida), had a tumor of the size of a small orange, attached by a large pedicle over the last cervical and first dorsal vertebræ, the arches of which were felt to be so deficient that the finger could be pushed into the cavity of the spinal canal. The general health was good, and its parents were well formed and healthy. Plunging a narrow bistoury through the pedicle of the tumor, the author cut one flap from it from within outwards, so as not to open the spinal canal; then he cut away the rest, and the fluid, limpid and unmixed with blood, at once escaped. He immediately brought the edges of the wound close together, so as to let no air go into the canal, nor more fluid to come out of it; and fastened them, as in the last case, with four needles and twisted sutures.

The infant suffered pain during the whole of the operation and the dressing, but directly after took the breast. The wound rapidly cicatrized; the cicatrix was firm and solid, and effectually closed the aperture in the vertebral canal. Two years and a half afterwards the child remained perfectly well.

The dissection of the tumor shewed that, as in the last case, it was formed of a cyst composed of skin, the spinal membranes, and an intermediate and tough tissue. Its cavity would admit the end of the thumb, and was smooth and polished.—*Gazette Médicale*, Juillet 31, 1841.

TABLE OF MORTALITY FOR THE METROPOLIS.

Shewing the Number of Deaths from all Causes registered in the Week, ending Saturday, the 25th Sept. 1841.

Small Pox	4
Measles	24
Scarlatina	18
Whooping Cough	42
Croup	4
Thrush	8
Diarrhœa	25
Dysentery	3
Cholera	4
Influenza.....	0
Typhus	34
Erysipelas	2
Syphilis	0
Hydrophobia.....	0
Diseases of the Brain, Nerves, and Senses ..	159
Diseases of the Lungs, and other Organs of Respiration.....	234
Diseases of the Heart and Blood-vessels	18
Diseases of the Stomach, Liver, and other Organs of Digestion	69
Diseases of the Kidneys, &c.....	5
Childbed	2
Ovarian Dropsy	0
Diseases of Uterus, &c.	3
Rheumatism	2
Diseases of Joints, &c.	2
Ulcer	0
Fistula	0
Diseases of Skin, &c	0
Diseases of Uncertain Seat	111
Old Age or Natural Decay.....	52
Deaths by Violence, Privation, or Intemperance	31
Causes not specified	1
Deaths from all Causes	857

METEOROLOGICAL JOURNAL.

September.	THERMOMETER.		BAROMETER.	
Wednesday 29	from 55 to 63		29.09 to 29.34	
Thursday . 30	53 64		29.15 29.33	
October.				
Friday . . . 1	44	58	29.39	29.48
Saturday . 2	44	59	29.65	29.70
Sunday . . 3	39	57	29.70	29.69
Monday . . 4	43	59	29.63	29.38
Tuesday . 5	44	57	29.12	28.92

Wind S.W. on the 29th. S. in the morning, S.W. in the afternoon and evening of the 30th ult. N.W. on the 1st instant. S.W. and N.W. on the 2d. N. and N.E. on the 3d. N. on the 4th. S.W. and S. on the 5th.

On the 29th, afternoon and evening clear; otherwise cloudy, with rain and boisterous wind. The 30th ult. morning overcast, with heavy rain; otherwise generally clear. The 1st inst. cloudy; frequent showers of rain during the day. The 2d generally clear. The 3d, morning clear, otherwise overcast; a little rain fell about 1 and 9 p.m. The 4th generally cloudy; raining frequently and heavily during the afternoon and evening. The 5th, morning foggy; afternoon clear; evening overcast, with rain.

Rain fallen, 1 inch and .09 of an inch.

THE LONDON MEDICAL GAZETTE,

BEING A
WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

FRIDAY, OCTOBER 15, 1841.

LECTURES
ON THE
PRINCIPLES AND PRACTICE OF
PHYSIC,

Delivered at King's College, London,

BY DR. WATSON.

Pneumonia continued: its general symptoms; pain, dyspnœa, cough, expectoration. Course of the disease. Prognosis. Treatment.

I WAS describing, at the close of the last lecture, the auscultatory signs which lead us to the knowledge that the inflamed lung, in a case of pneumonia, has passed from the first into the second stage of inflammation, and become solid, or hepatized. The altered condition of the organ gives rise to altered sounds. Instead of the vesicular breathing, which is the natural sound; or of the minute crepitation, which is the sound belonging to the first stage of the inflammation; we either hear no sound at all, although we feel the chest heave up against our ear, or we hear what I described under the denomination of *bronchial respiration*; that is to say, a puffing sound which is conveyed to the ear from the larger and still pervious branches of the bronchi, through the solid portion of lung around them, and through the solid walls of the chest. This is what the listener hears when the patient *breathes*. And when he speaks, his *voice* is heard, much more resonant than is natural, much more resonant than in the corresponding spot on the opposite side of the chest, entering the same open air tubes, and conducted to the ear by the dense and solid lung. We thus become acquainted with two entirely new sounds; sounds which are never heard in the healthy state of the lungs; *bronchial respiration*, and *bronchial voice*, or *bronchophony*: and

you will do well to remember these two sounds, and to familiarize your ear to them; for they speak a most significant language in *other* pulmonary diseases, as well as in pneumonia.

But I say, sometimes we hear these morbid sounds, in the case in question, and sometimes we hear *no* sound at all during the breathing. How is that? Why the existence and degree of the bronchial respiration, and bronchial voice, vary according to the place and extent of the inflammation. These morbid sounds are most plainly marked, where the number and size of the bronchial tubes involved in the hepatization are the greater. They are most distinct, therefore, when the inflammation occupies the upper part of the lung; or the central parts, what are called the roots of the lungs; and when it extends thence to the surface: but when the lower portions alone are inflamed, or the inflammation is merely superficial or partial, they may not be heard at all. Again, if the hepatization should be so general and complete, as to prevent the chest, on the affected side, from expanding—you will, in that case, hear no bronchial *respiration*; for the air in the larger bronchi must be stagnant. *Bronchophony*, however, may remain.

When we have the bronchial respiration, usually also we have dulness on percussion. The degree in which this is present will depend upon the circumstances of the case. If a portion of crepitant and permeable lung, even a thin portion, should intervene between the inflamed parts and the walls of the chest, there will still be resonance, though it will not be exactly the natural resonance, on percussion. If the hepatized part come close up to the ribs, the sound elicited by mediate percussion will be flat or dead. With all this, you will generally hear, in the sound lung, if the whole of the other be engaged in the inflammation;—or in those parts of the inflamed lung that are healthy;—you will hear I say *puerile respiration*: and this

is a strong confirming symptom that a part of the breathing apparatus is spoiled, and that the remaining part is endeavouring to compensate for its deficiency.

Now this period in pneumonia, when no sound but bronchial breathing is audible during respiration, is a period of anxious and painful interest. You cannot tell whether the lung will revert gradually to its healthy state; or whether it is passing into the third stage, of purulent infiltration. But taking first the most favourable of these two suppositions—what happens? Why, *there*, where for a while we heard nothing but bronchial respiration, a slight crepitation begins again to be distinguishable, especially at the end of each act of inspiration; gradually this increases in extent and intensity, and as it increases, the bronchial breathing, and the bronchial voice, become proportionally less distinct, in consequence of the texture of the lungs becoming again permeable by air, and therefore a worse conductor of sound. By degrees, the bronchial breathing and voice disappear altogether; the vesicular murmur begins again to mix with the crepitation, and at length supersedes it; and the lung is restored to its previous fitness for the purposes of respiration. The same symptoms therefore recur, over again, but in a reversed order; the *returning* crepitation is however somewhat coarser and larger, and less regularly diffused, than that of the *advancing* pneumonia:—and even when, in the ordinary condition of the breathing, nothing is heard but the natural vesicular rustle, some crepitation is found for some little while to mingle with it, towards the end of a full inspiration. This is believed to depend upon an œdematous state of the pulmonary texture, left after the active inflammation has been displaced. Next, let us take the *worst* of the two suppositions. Auscultation has traced the lung *through* its stage of engorgement, and *into* its stage of hepatization. Can it trace it any farther? I believe not, with any certainty. We cannot say whether the lung remains in the state of hepatization, (as it may remain) or whether it has passed into the third stage. But at last, if the structure of the lung breaks down, and a portion of it is expectorated, air finds its way into the vacant spot, and gives rise to large gurgling crepitation. But the other signs sometimes come to our aid when this state has been reached.

We often find, after death, the three degrees of pneumonia existing in the same lung, and in different parts of it; and therefore it is not to be wondered at that the different parts of the chest during life should yield sounds indicative of each of those degrees, or at least of the two first; minute crepitation *here*, bronchial breathing and bronchophony, and dulness on percussion

there, and in another spot *no* sound at all, or on the other hand, *puerile* respiration.

Again, it must be confessed—and I am desirous of confessing it, for I am sure that the method of auscultation is brought into undeserved suspicion and disrepute by attempts made to assert its all-sufficiency in all cases—it must be confessed that in some instances, although pneumonia exists, the ear is able to collect nothing of it: nothing indicative of its situation, or of its extent, or even of its existence. The pulmonary expansion is clear, all over the thorax; nay much more strong than is natural: and this circumstance justifies the belief that, from some cause or other, not necessarily from pneumonia, a portion of the lung has ceased to discharge its function, and the other portions have taken it up. This failure on the part of auscultation happens when the inflammation occupies only a small portion of the lung, and that portion central, or deeply situated; at a distance from the walls of the chest. For this reason auscultation may give little or no account of *lobular* pneumonia.

Such are, then, the physical signs that accompany and reveal the successive changes of texture, destructive and reparatory, which take place in inflammation of the lungs. I do not know whether I have made them clear to you; but I know that no very long apprenticeship, if I may so speak, in the wards of a hospital, will be sufficient, with a little guidance, to render you master of them. There are indeed varieties, and modifications, and exceptions, which nothing but such an apprenticeship can ever teach you. Of these it would be idle and unprofitable for me here to speak: and I go on to consider the *general* signs of pneumonia; some of which, either in themselves, or in combination with the *physical* signs, are of no less importance than these.

General symptoms.—In the majority of cases the commencement of inflammation of the lung is marked by shivering, followed by heat and increased frequency of pulse; in one word, by inflammatory fever: and at the same time, or presently after, a stitch in the side comes on, with cough, and a sense of oppression in the chest. In other instances the disease steals on more insidiously, and succeeds to bronchitis; the inflammation appearing to propagate itself by little and little from the larger to the smaller bronchi, and ultimately to reach the air-vesicles themselves, and the interstitial textures; and this may be accomplished with or without the sharp pain or stitch in the side. At first the cough may be dry, but it soon is attended with a very characteristic sort of expectoration. The dyspnoea is sometimes but slight in the outset; sometimes severe.

Apart, therefore, from the physical signs, we may say that the usual symptoms of pneumonia are pain, more or less severe, on one side of the chest; dyspnœa; cough; a peculiar expectoration; and fever.

The pain in pneumonia appears to exist only in those cases in which the inflammation of the lung is accompanied by some degree of pleurisy. But these are the most numerous cases. It is most commonly experienced on a level with, or a little below, one or other breast; but it may exist in almost any other part of the thoracic parietes. Generally it is most severe at the beginning, declines by degrees, and ceases altogether for some time before the *pneumonia* ceases. It is aggravated by cough; by a full inspiration; often by sudden changes of posture; by pressure made upon the ribs or intercostal spaces; or by percussion of that part. For the same reason the patients cannot lie on the painful side. Andral declares that in all the individuals in whom he had noticed this pain, and who died, he found the pleura inflamed, and covered more or less with coagulable lymph; and, on the other hand, that he had constantly known the absence of pain coincide with a sound condition of the pleura. When there is no sharp pain, there is, however, some morbid sensation, of trouble, or tightness, or weight, or heat, on the affected side. He quotes, with approbation of its justness, the ancient observation respecting pneumonia:—"Affert plus periculi quam doloris." When I come to speak of pleurisy as a distinct and substantial affection, I shall revert to this pain.

It is, or it was, a common doctrine, that one of the general symptoms of pneumonia relates to the posture which the patient assumes; that the *decubitus*, to speak technically, is on the side affected. The truth, however, is as I have just now stated it. The *breathing*, indeed, is more oppressed when the patient lies on the sound than when on the diseased side; but, in point of fact, patients labouring under this disease almost all lie upon their backs; the *decubitus* is dorsal.

The difficulty of breathing deserves some notice. In general it bears a direct proportion to the extent and severity of the inflammation. But there are many exceptions to this. In some persons the inflammation of even a very small portion of one lung will embarrass the respiration greatly. In others, who have a much larger portion of the pulmonary tissue intensely inflamed, the dyspnœa is but slight. So that the degree of difficulty of breathing is not a *certain* measure of the seriousness, or rather of the extent and the degree, of the inflammation. It is probable, that if we knew of what kind was the ordinary breathing of the individuals

thus differently affected, we should find that they whose respiration is generally indistinct, or noiseless, who do not seem to *want* all their lung for the purpose of breathing, would best bear to have a part of it inflamed; and *vice versâ*. *Cæteris paribus*, inflammation of the upper lobe causes greater dyspnœa than inflammation of the lower. I may observe farther with respect to dyspnœa in general, that you must not trust implicitly to what patients tell you on that head. They will often deny that they have any shortness of breath, when one may see them respiring with unnatural rapidity, or observe that, in their discourse, they pause between every three or four words to take breath.

However, the dyspnœa produced by pneumonia varies greatly in its degree in different cases. Sometimes it is so slight that the patient is not conscious of it, and the physician scarcely perceives it: sometimes it is so extreme, that the patient is entirely regardless of what is going on about him, seems wholly occupied with respiring; is unable to lie down; can scarcely speak: his face becomes lividly red or pale, and is expressive of the utmost anxiety; his nostrils are expanded, and in full action; the respiratory movements are very frequent and very short or shallow, as if the air was not able to penetrate beyond the primary divisions of the bronchi. From this state of extreme dyspnœa few patients recover; and between this, and the slightest hurry or embarrassment of the breathing, there are of course many degrees.

Delirium is a symptom which very frequently occurs in the course of an attack of pneumonia; and a very ugly symptom it is. It denotes that the due arterialization of the blood is largely interfered with by the pulmonary affection. It measures, in one sense, the quantity of mischief which is going on within the thorax: and it is a direct evidence that the pectoral mischief is telling, through the circulation of venous blood, upon the *brain*.

The cough, in pneumonia, has no particular character; and affords but little information. It does not usually take place in paroxysms; and its severity and frequency are not always proportioned to the intensity and extent of the inflammation. It is usually dry in the outset; but in a few hours it is accompanied by the expectoration of peculiar sputa, which constitute one of the most certain indications of the presence of pneumonia: and as this is a symptom which every one can easily recognize, I will describe this characteristic expectoration, and endeavour to explain the cause of it.

The expectoration of pneumonia, when well marked, consists of transparent and tawny or rust-coloured sputa, uniting, in the vessel containing them, into one jelly-like

and trembling mass; and of such viscosity that the vessel may be turned upside down, and strongly shaken, without their being detached from its bottom or sides. It cannot be said that when there is no such expectoration as this, there is no pneumonia: but it may be affirmed that where we do find such expectoration, there almost certainly we have pneumonia. At the outset of the disease, either nothing is spat up, or simply some bronchial mucus: but on the second or third day generally, the matters expectorated assume the characteristic appearance: *i. e.* they come to be composed of mucus, intimately united and combined with blood. It is not that the sputa are *streaked* with blood, as often happens in *bronchitis*: nor have we the *unmixed* blood of *hæmoptysis*. But the blood and the mucus are amalgamated together; and in proportion to the quantity of the former, the sputa become of a yellow colour, or of the colour of rust, or of a decided red: and at the same time they become glutinous and tenacious: they adhere together so as to form one transparent homogeneous mass. So long as this mass flows readily along the sides of the vessel when it is tilted, so long have we reason to *hope* (judging from that circumstance alone) that the inflammation of the lung does not pass its first degree. But, as I said before, the sputa often acquire an extraordinary degree of viscosity: so as no longer to separate themselves from the vessel when it is inverted: you cannot even shake them out. When this happens, we are obliged to *fear* that the pneumonia reaches its second degree. In fact, when the sputa become thus rusty and very viscid, the stricken chest almost always returns a duller sound, and the vesicular breathing is abolished, and bronchial respiration takes its place. The pneumonia is then at its acme; and the expectoration remains for some time stationary. At length, if the inflammation recedes, the sputa become again less tenacious, less red or yellow, and more like the expectoration of mere catarrh. But if the disease goes on from bad to worse, the rust coloured sputa may continue to the end. Commonly there is *less* expectoration in that case, or even none at all. Not that the mucus ceases to be secreted, but that its *excretion* is no longer possible: either on account of its extreme tenacity, or on account of the patient's debility. The sputa then accumulate in the bronchi, trachea, and larynx, in succession: they fill up the air passages; and suffocate the patient. In some instances the expectoration, in the advanced stages of the disease, consists of a fluid having the consistence of gum water, and of a brownish red colour: like (as Andral says) liquorice water, or plum juice. He states that the mere occurrence of this kind of expectoration has led

him to announce the existence of the third stage of pneumonia; and that the subsequent examination of the dead body has seldom failed to justify his diagnosis. Sometimes again, during the third stage, very perfect pus is excreted.

That the colour of the sputa peculiar to pneumonia depends upon an intimate union of *blood* with the altered mucus, is perfectly obvious when that colour is deep. And even when this transparent mucus is yellow, you may satisfy yourselves by the following simple experiment that the source of the colour is the same, and that the yellowness does not result, as some have fancied, from an admixture of *bile* with the matter expectorated. If to water, rendered viscid by dissolving a certain quantity of gum in it, you add blood, drop by drop, you will obtain, in succession, all the shades of colour that are presented by the pneumonic sputa: first a yellow tinge; then a tawny yellow which loses itself in a red, and comes to represent the colour of the rust of iron; and lastly an intense red. The sputa may indeed, sometimes, but I believe *that* does not often happen, be coloured by bile; but bile is not the source of the yellowness which characterizes them in cases of pneumonia.

Sputa composed of very red mucus indicate pneumonia less surely than such as are tawny. The very red masses, in which there is more blood than mucus, often belong to pulmonary apoplexy.

Although these rust or orange coloured sputa are commonly present during the more active period of pneumonia, and as far as my experience goes are peculiar to that disease, you ought to be aware that they do not *constantly* accompany it. Sometimes the matters expectorated are like those of catarrh: and sometimes there is scarcely any expectoration at all.

When the pneumonia passes into gangrene—which I repeat is an exceedingly rare consequence of inflammation in that organ,—the expectoration becomes of a greenish, or reddish or dirty grey colour; and exhales a fetid smell, resembling that which proceeds from gangrene of the external parts.

I have now described, *seriatim*, the main symptoms, general and physical, which mark the existence and the progress of pneumonia. And in order to give you a just notion of each, I have spoken of them separately. But they *exist together*; and they must be *studied* together: and some will be found to confirm or to correct the indications that might be drawn from the others. I must briefly therefore run over the phenomena of the disease we have been considering, as it actually presents itself, in most cases.

The first symptom felt is commonly pain in the side; which may or may not have been preceded by rigors. At the same time

the breathing is constrained; and the patient coughs without expectorating. At this period, the ear may generally detect a slight degree of minute crepitation, which is not strong enough to mask entirely the vesicular rustle; and the stricken thorax still sounds well: and there is fever withal. This assemblage of phenomena constitutes the first period of the disease. From the second to the third day, new symptoms appear. The expectoration, hitherto absent, or merely catarrhal, becomes characteristic; being at first moderately viscid, and having a degree of colour proportioned to the variable quantity of blood which it contains. The minute crepitation increases, and drowns or supercedes the natural respiratory murmur: the clear sound produced by percussion begins to diminish on that side on which the crackling is heard and the pain is felt; and that pain is commonly less sharp than in the beginning. The dyspnoea increases, as is quite apparent from the short and frequent inspirations made by the patient. If the pain be acute, he cannot lie, on that account, on the side affected; neither can he place himself on the sound side, because in that position his respiration becomes more laborious; he remains therefore, almost constantly, lying upon his back.

In this stage of pneumonia, though the disease is severe, the inflammation is merely in its primary stage. It often remains stationary for a while, and then recedes, and terminates by resolution. The dyspnoea diminishes, the slight dulness of sound disappears, the crackling is gradually displaced by the natural murmur of the pulmonary expansion, the sputa again become those of simple bronchitis, the fever subsides, and ceases; and all is well again.

At other times, instead of retrograding towards resolution, the pneumonia becomes more intense, or rather more extensive, without passing beyond its primary stage; and the patient may die while it is yet in that stage. But this is unusual. Ordinarily, if the inflammatory engorgement does not cease by resolution, and the symptoms that announce it are exasperated, we must expect that the second stage will be established. And we may be certain that it exists when we observe the following phenomena:—the breathing becomes more and more constrained, short, accelerated; the speech ceases to be free; the patient can do no more than pronounce a few interrupted words in a panting manner. The sputa acquire such a degree of viscosity, that they can no longer be detached from the vessel by shaking it; the sound afforded by percussion, on the side affected, is decidedly dull: at first we still hear a little of the minute crepitation, without the admixture of any pure vesicular breathing; then that little

crepitation ceases, and either no sound at all is perceived by the ear, or, in the part where the percussion is dull, bronchial respiration is heard, and this is almost always accompanied with bronchophony. The patient continues to lie on his back.

In this degree of the disease, the prognosis is always uncertain. The patient often sinks rapidly, and dies from apnoea. Yet even in this degree resolution *may* still take place. In that case the dulness on percussion diminishes; the bronchial breathing disappears; we hear afresh the small crepitation, at first alone, then mixed with the natural respiratory murmur, which, in its turn, becomes alone audible. The sputa return to their catarrhal character. In the meanwhile the dyspnoea and fever diminish, and then cease entirely.

It would doubtless be very interesting to determine, in a given case, whether the lung of our patient was in the second or the third stage of inflammation. But there are no certain means for making this distinction. We may *guess* that the third stage is established if the face becomes exceedingly pale and corpse-like; we may be more confident of it if the prune-juice expectoration, or if puriform expectoration, should occur; and our presumption will be strengthened if the disease has existed a certain *time*. However, this last circumstance will not help us *much*; for sometimes the lung has been found to be in a state of suppuration on the fifth day of the disease, and sometimes it has been found still in a state of red hepatization after fifteen or twenty days.

Whether, when the lung has reached this third stage, it is still susceptible of repair, is a question which no one can answer. We have not the materials for its solution, inasmuch as we have no sure sign of the existence of this third stage during life. I should *think* that recovery from diffused suppuration of the lung is not possible. The rarer form of circumscribed abscess certainly is not of necessity fatal.

The *duration* of pneumonia may be laid, upon an average, at ten days. In a table collected by Andral for another purpose, viz. to determine whether there were any fixed *critical* days in respect to the termination of the disease (a question which I shall not now discuss), the duration, in 112 cases, varied from four days to six weeks. But one only was thus protracted; 23 cases lasted each seven days; and only 15 of the 112 instances continued longer than a fortnight.

I have very little to add to what I have stated already of the morbid anatomy of pneumonia. Of the changes which the *lung itself* undergoes you are now I hope fully apprised. The pleurisy, which often attends the disease, is seldom accompanied by much

effusion ; indeed, when the whole of one lung is solidified by inflammation, it fills the cavity of the pleura, and *prevents* much effusion. The heart is found to be in that condition which I formerly described to you, as being both a consequence, and an index, of death by apnoea. Its right cavities especially are distended by black coagulated blood ; and a remarkable degree of venous congestion is frequently met with in the liver, and spleen, and intestines. The amount of this varies accordingly as the process of dissolution—what the French call the *agony*—has been more or less protracted, and the breathing more or less difficult.

Neither need I enter upon any formal discussion of the *causes* of pneumonia. Sometimes *no* cause can be traced ; sometimes the disease is clearly the consequence of exposure to cold ; especially under those circumstances which were formerly described as aiding the injurious operation of cold upon the human body. Why, in one person, such exposure causes peritonitis, in another pleurisy, and in a third inflammation of the substance of the lungs, we can give no satisfactory account.

It remains, then, only that I should speak first of the *prognosis*, and secondly of the *treatment*, of pneumonia : and of the first of these matters, of the prognosis, I have already, incidentally, told you nearly all that is made out, or worth knowing. It is almost superfluous to say that the first degree of the disease is less dangerous than the second, and the second than the third. There is no doubt that pulmonary inflammation may still undergo resolution, although a great part of one lung should be hepatized ; but there are on facts which prove—indeed there is no possibility of proving—that the lung may recover from the state of purulent infiltration—the third degree.

Something will depend upon the *extent* of the inflammation ; I mean that pneumonia, in the first degree and of great extent, is generally as serious as pneumonia in the second degree, but much more circumscribed. Inflammation of the upper lobes is also more perilous than inflammation, to the same extent and degree, of the lower.

Of the *general* symptoms, those which we learn independently of auscultation, the *respiration*, as a prognostic sign, is the most important. Considerable dyspnoea, whatever may otherwise be the condition of the lung, is always a bad omen. We get less help from the state of the *pulse*. If, however, a feeble pulse goes along with great difficulty of breathing, and if it does not develop itself after the first bleeding, we must conclude that the inflammation is intense, and form therefore an unfavourable prognosis. The supervention of *delirium* is also a discouraging circumstance. You will have

inferred already the information which may be gleaned from the character of the expectoration, in respect to the probable issue of the disease. Great viscosity of the sputa, and a deep rusty colour, announce intensity of inflammation : their return to the catarrhal condition indicates that resolution is going on. Watery and brownish sputa, more or less like plum juice, should induce us to suspect suppuration of the lung, and are therefore of bad augury.

The *great* instruments to be employed in the *treatment* of inflammation of the lungs, are the same which have so often been recommended by me, in other inflammatory affections, before : blood-letting, tartarized antimony, mercury. Of these, blood-letting is the chief. Both reason and experience attest the especial power of bleeding upon acute pneumonia. In the first place, it tends to restrain or extinguish the inflammation *as* inflammation. But, in the next place, it has the effect of relieving the particular *function* of the lungs. The more blood is sent to them in excess, the more dyspnoea must there be, the more venous blood passing into the arteries, as well as the more risk of the effusion of lymph and the obliteration of the cellular texture of the organ. When we bleed, therefore, in pneumonia, we kill two birds (as the phrase is) with one stone. We do that for the lung, which we do for an inflamed eye when we darken the room, or for an inflamed joint when we keep it absolutely at rest, *i. e.* we do all that we can to spare the exercise of the organ, and to prevent aggravation of the inflammation from that cause. And the result of the free abstraction of blood in this disease, fully vindicates the value of a practice which has been pursued for ages. The late Dr. Gregory, of Edinburgh, was in the habit of saying, in his lectures, that provided he was called *early* to a case of pneumonia, he would be contented to dispense with all other aids than those of a lancet, and water-gruel. I am far from desiring you to believe that blood-letting is the only expedient required ; but certainly the amount of the best experience, ancient and modern, is strongly in favour of its free, and I might almost say, its prodigal, employment. Very lately one, most distinguished, French writer, M. Louis, has endeavoured to shew that venesection has not much control over the progress or event of pneumonia ; and I advert to his opinion on this subject merely to caution you against being misled by it ; as you might otherwise be, considering his deserved reputation as an exact and faithful observer in general.

I can only lay down *general* rules and indications with respect to the manner and amount of blood-letting in this disease, or in any other disease. The abstraction of

blood will be effectual, *cæteris paribus*, in proportion as it is *early*; during the first stage—the stage of engorgement—and before the spongy texture of the lung has been obliterated. The patient should be bled in an upright position, by a large orifice and in a full stream: and the bleeding should be continued until some sensible impression is made upon the system: until the *pulse* becomes *softer*; or, if it were contracted, until it becomes *fuller*; until the *sensation* of *constriction* is abated, and the *dyspnœa* relieved; or until *syncope* appears to be at hand.

Bleeding, in this early stage, often gives very speedy relief, both to the pain and to the dyspnœa. Sometimes the pain does not cease at once, but goes off a few hours afterwards; but I believe that if the breathing be not at all relieved at first, the case generally (though not always) does ill. However, you are not to expect that one blood-letting will suffice, even when it is performed early in the disease. Such a favourable case may happen, but not often. The patient should always be seen within four or five hours from the time of the first venesection, that a timely *repetition* of it may take place, if the relief has not been enough, or has not been *permanent*. Many fatal cases have probably *been* fatal from want of this attention; from too long an interval having been suffered to elapse between the bleedings. A vein may be opened, if necessary, two or three times in the twenty-four hours; and the ultimate loss of strength, and even loss of blood, will be less under such treatment than if the blood-lettings were repeated at longer intervals; and the necessity of the repetition must be judged of from the circumstances of the case. As an auxiliary to the lancet, I am much in the habit of taking blood from the surface of the chest itself, by means of cupping-glasses, or of a large number of leeches. I believe that much good is done by this local emptying of the blood-vessels. It is particularly indicated if there be pain; and the part to which the leeches or cupping-glasses are applied should be determined by the situation of the inflamed portion of lung, when that is ascertained by the ear. I scarcely need say that the whole of the antiphlogistic regimen must be rigidly enforced: that the patient must keep his bed; and that all superfluous exertion of his lungs in speaking must be forbidden.

When the inflammation has advanced into the second stage, we cannot expect that the removal of blood will have so decided an influence upon the inflamed and solid parts; but even then, if duly moderated, it will have these good consequences: it will diminish the force of the heart and arteries, and so tend to prevent the *extension* of the inflammatory process; it will lessen the whole quantity of blood circulating through those

portions of the lung which are *still pervious*, and thus relieve dyspnœa; and it will put the system at large into the condition most favourable for the reabsorption of the lymph by which the air-tubes and vesicles of the affected parts have been blocked up.

But a time arrives when bleeding is no longer useful, or when it is positively hurtful: when it ceases to have any good influence on the local disease, and has an injurious influence on the whole system; reducing the patient's strength, and incapacitating him for bringing up and ridding his lungs of the tenacious mucus exhaled by the bronchial membrane. This is what takes place in those cases in which the expectoration is said to be *stopped* by a bleeding. I have mentioned Dr. Gregory's reliance on blood-letting for the cure of pneumonia; and I ought to tell you at the same time what I have been informed respecting the result of his practice. He "used to bleed to the verge of convulsion. His colleague, Dr. Rutherford, seldom went beyond three bleedings, and generally accomplished his object by two, judiciously timed and measured. *His* patients recovered quickly; Dr. Gregory's very slowly."

We want some remedy, therefore, to assist the lancet, or to employ alone when the lancet can do no more; and we have two such, in *tartarized antimony*, and in *mercury*. The tartar emetic plan I believe to be the best adapted to the first degree of the inflammation—that of engorgement; and the mercurial plan to the second—to that of hepatization.

I need not tell you that the tartarized antimony is not given in this disorder with the object of producing vomiting. It is a very curious thing that although, when administered in a considerable dose, its first effect is often that of exciting sickness, and perhaps purging, a repetition of the same dose is, in the majority of cases, at length borne without any farther vomiting. The stomach comes to *tolerate* the medicine, as our continental brethren say; and then its beneficial influence upon the disease is no less marked than when nausea and vomiting take place. Some patients do not vomit at all; others, the majority in fact, vomit two or three times, and then *tolerance* is established. If the sickness and purging go on, they may be checked by adding a few drops of laudanum to each dose. Dr. Thomas Davies, who had tried this remedy largely, and, as he tells us, with great success, gives the following as his own plan of administering it, and perhaps it is as good as any. After free bleeding, he begins with one-third of a grain of tartar emetic in half a wine glass-full of water, with a few drops of laudanum or syrup of poppies. Two doses of this strength he gives at the interval of one

hour from each other. He then, if the patient does not vomit, omits the opium, but continues it if he does, doubling, however, the quantity of the tartar emetic, giving two-thirds of a grain for two successive hours; and in this way he goes on, adding a third of a grain every two hours, until he reaches two grains every hour. This last quantity he has not exceeded, and he says that he has continued it for many days without producing any injurious effect.

Under this plan of treatment the symptoms will often undergo a marked change for the better, in three or four hours. Sometimes, however, the relief is not conspicuous for twenty-four or even for thirty-six hours. He states, and this is accordant with my own experience of the remedy, that the tartar emetic always acts best when it produces no effect except upon the inflammation itself; *i. e.* when it does not produce vomiting, or purging, or a general depression of the powers of the system. This is an important practical remark, because many persons have supposed that it subdues the disease only when it previously gives rise to these effects. I consider this testimony of Dr. Davies to the power of the tartarized antimony in controlling inflammation of the lung the more valuable, because he informs us, that before he had occasion to see its admirable effects in the first stage of pneumonia, he had been in the habit of trusting to the free use of mercury, after due depletion.

When the dyspnœa has been put an end to by antimony thus exhibited, the medicine may be intermitted; and if the inflammation shew any disposition to rekindle, it must be again extinguished by a repetition of the tartar emetic.

When, however, the inflammation has reached the second stage, that of solidification, mercury is more worthy of confidence, in my opinion, than tartarized antimony. And I have little or nothing to add to what I formerly said in respect to the mode in which it ought to be administered. The object of giving it is to make the gums tender; and it is expedient to do this as speedily as may be. Small doses of calomel repeated at short intervals—a grain every hour, or two grains every two hours, or three grains every three hours—combined with so much of laudanum or of opium as may be requisite to prevent it from running off by the bowels—offer the most certain way of accomplishing our object. If the bowels are irritable under the calomel, blue pill, or the hydrargyrum cum cretâ, may be substituted for it with advantage: and if the internal use of mercury be any how contraindicated, or if it appears slow in occasioning its specific effect, the linimentum hydrargyri may be rubbed in, or the strong mercurial ointment.

Many persons, I am persuaded, are saved by treatment of this kind, pushed to slight ptyalism: the effusion of lymph, tending to spoil the texture of the lung, is arrested; and the lymph already effused begins to be again absorbed: and the ease and comfort of the patient, as well as the alteration for the better of the physical sounds, attest the healing qualities of the remedy.

After the inflamed lung has become solid and impermeable, the treatment must be regulated rather by the state of the system at large, than by the actual or presumed condition of the lung: we must look more for guidance to the general symptoms, than to the physical signs. If the pulse continues steady and firm, wait patiently the effect of the mercury. But when sunken features, a pallid face, coldness of the surface or extremities, a tendency to delirium, and (above all) a feeble or irregular pulse, proclaim that the vital powers are giving way, it will be requisite, as in other cases where death is threatened by asthenia, to administer cordial and stimulant medicines: the carbonate of ammonia in a decoction of seneka; wine: and to feed the patient well on milk, or beef-tea.

Among what may be called the routine remedies of pneumonia, we must rank counter-irritation by means of blisters. When one is called, in consultation, to see a patient labouring under inflammation of the lungs, we may safely speculate upon the conclusion that bleeding and blistering, and purging by calomel, have all been duly performed. And I believe that blisters are often applied to the chest much too early in such cases. In the outset, while there is yet considerable fever present, they add to the irritation, and distress the patient; and probably tend to aggravate the existing inflammation. They are also attended with this inconvenience, that they interfere with the exploration of the state of the lungs by the ear: and this is not a slight or fanciful disadvantage; for the information we receive, by the sense of hearing, of the state of the lung—whether the inflammation be making progress, or receding, or stationary—is of great use in directing the remedial management of the case. But of course this is a consideration not to be put in competition with the benefit which may be expected sometimes from a blister. When the fever is no longer high, and the skin no longer burning, but the expectoration is still difficult, the dyspnœa considerable, and a sensation of pain, or tightness or oppression is experienced in the chest, then a large blister is often productive of very sensible benefit; but it should be a large one. The patient should have a waistcoat almost, or at any rate a breast-plate, of blistering plaster. I have never seen such good effects from placing blisters

upon distant parts in this disease, upon the thighs or arms for instance, as would lead me to plague the patient with them in those situations.

Purgatives are of less certain value in pneumonia than in many other inflammatory diseases; and less, especially, than in cerebral inflammation. Still it will be always right to give an active aperient at the outset; and afterwards to take care that the bowels be unloaded at least once every day. A continued drain by purgation would not consist at all with the mercurial plan, which promises to be most useful when the inflammation has already reached the stage of hepatisation.

This, then, is the outline of the treatment which is most likely to save the life of those who are affected with acute idiopathic pneumonia. Different cases will require different modifications of it, for which, I repeat, no particular rules can be laid down.

All that I have hitherto been saying relates to *acute* pneumonia, occurring in a previously healthy person. But pneumonia, having that character, and so occurring, is a much less common disorder than most persons appear to suppose, or than I formerly thought it to be. I have been surprised to find how few cases of pure idiopathic inflammation of the lungs present themselves among my hospital patients. Five or six in the year are as many as I see there. Inter-current pneumonia, however,—pneumonia engrafted upon some other pre-existing disease—is abundantly frequent; and requires, in general, a much less vigorous, and more wary plan of treatment. Inflammation of the pulmonary substance is apt to supervene insidiously upon various disorders which are of every-day occurrence: upon bronchitis; upon phthisis; upon disease of the heart; and upon fevers, especially the exanthematous fevers. In these cases, while the physical signs are necessarily the same as in the unmixed acute disease, the general symptoms are often but slightly pronounced. During the progress of continued fever of a low type, inflammation may steal upon the lung, and run quickly through all its stages, and spoil the organ irrecoverably, without giving any notice of its presence: unless, indeed, you suspect, and search for it with your ear. The pneumonia is said, in such cases, to be *latent*. It seldom needs, the associated disorder would seldom bear, any active depletion. Much benefit often follows the abstraction of small quantities of blood, but they should be taken from the surface of the chest by the cupping-glass, and not by the lancet from the arm: and it is often good practice thus to aim at reducing the local mischief with one hand, while with the other we support the patient's strength by means of ammonia, wine, and nourishing broths.

Blisters are also of service: more so than in the sthenic forms of pure pneumonia; and they may be applied at an earlier period. In conjunction with these remedies I should advise the cautious employment of mercury.

When the convalescence from acute pneumonia is decided, and real, it is shorter than might have been supposed. From the period when the pulmonary inflammation is fairly over, the strength returns with unexpected facility, even when large bleedings have been practised and repeated. But we have to guard, more perhaps in this disease than in most others, against false or merely apparent convalescences. A patient can never be pronounced perfectly secure so long as any trace of crepitation remains in the affected lung, and this may often continue long: nay, it not unfrequently ceases only upon the supervention of another more surely fatal though less rapid a disorder—viz. tubercular consumption; of which, however, I must treat as a distinct disease.

In the next lecture I shall speak of Pleurisy.

ON THE OCCURRENCE OF INFLAMMATION OF SEROUS AND OTHER TISSUES IN CASES OF ANTHRAX.

By NORMAN CHEVERS, M.D. M.R.C.S.

[Concluded from page 86.]

(For the Medical Gazette.)

THE following case offers, in its termination, so marked a resemblance to the last, that I cannot refrain from giving it at length: the notes of it were kindly furnished me by my friend, Dr. C. T. Weston, as it did not come under my own notice until a few days previously to the patient's death.

CASE.—Esther Field, æt. 54, admitted to Mary's ward, October 28th, 1840, under the care of Mr. Morgan. She was a person of sallow and unhealthy aspect, and of great bulk, with evidently little power, who denied ever having been addicted to habits of intoxication. She had been suffering for four months from a carbuncular sore over the right scapula, extending into the axilla of the same side. She was ordered tonics and moderate stimulants, with a sedative at night; and nitric acid wash with opium was applied to the sore.

November 2d.—The sore presents an unhealthy appearance, sloughing and extending at the lower margin.

25th.—Under the application of the

stale-beer-grounds poultice the sore looks more healthy, and appears inclined to heal.

Dec. 7th.—The sore has extended at the lower margin, where it presents a very sloughy appearance, with hardened, elevated, and somewhat everted edges, surrounded by a reddish purple discolouration.

For more than three months from this period the sore continued to vary in its condition: at one time becoming clean, and assuming a healthy appearance; then putting on a foul and gangrenous aspect; and again improving under the use of detergent and stimulating applications.

On the 16th of March, 1841, the report was as follows:—The sore is much improved, having healed to a considerable extent at the upper part; but towards the breast about an inch of its margin presents a phagedenic character: the left leg swells after she has got up.

26th.—Yesterday morning she was seized with chilliness and shivering, which she ascribed to having been exposed to cold on the day before during the scouring of the ward. This was soon followed by a little difficulty in breathing, and a slight pain under the right breast. During the night and this morning she has been very sick, vomiting bilious matter: the margin of the sore has put on an unhealthy aspect, and there is an erysipelatous blush upon the surrounding integuments: her breathing is now very much oppressed, and attended by severe pain under the right mamma, shooting through to the back, rendering it impossible for her to take a full inspiration; the tongue is furred towards the base, and rather dry; the pulse exceedingly feeble and small; the bowels not open. She was ordered

A castor oil enema, Pulv. Antim. Opiat. fort. c. Cal. gr. xii. postea et h.s. She also took the Haust. Ammon. Efferves. A linseed meal poultice was applied to the sore.

27th.—The pain under the right breast is much diminished, but the breathing is greatly oppressed, almost to orthopnoea; the bowels are open; the sickness continues.

To repeat the pill without the antimony, and continue the other medicines.

28th.—She now sits up in bed, being

unable to maintain any other position, and appears to be almost moribund: she suffers no particular pain, but the breathing is short, and extremely difficult, and she can hardly speak; the tongue is dry, and rather brown; the pulse small and feeble. The nurse states that this morning she passed a large quantity of dark grumous blood by stool.

To take Ammon. Sesquicarb. gr. viii. c.
Tr. Card. Cal. ʒi. quartis horis. Vin.
Rub. ʒvi.

29th.—She expired at two o'clock this morning.

Autopsy.—Upon making an incision into the right pleura, a large quantity of bloody serum gushed out: the cavity contained about a quart. There was also a smaller collection of similar fluid on the left side. Both lungs were in some parts in a state of hepatization, and in other places loaded with watery serum: the heart and pericardium healthy: the peritoneum contained some serum tinged with blood: a portion of the mucous membrane of the ascending colon was dark, as if from ecchymosis, and some lymph adhered to its surface: the liver was considerably enlarged: its structure softened, light coloured*, and ecchymosed; the tunics of the kidneys were adherent, and the glands themselves large, soft, flabby, and congested. The other viscera were healthy.

It will be observed that a very striking similarity existed between the termination of this woman's case and that of the man Foulkes, detailed above. From the great extent of the ulcer upon the side of the woman's chest, as well as from her extremely depressed condition, a stethoscopic examination during her fatal attack was almost precluded; but the sudden occurrence of pleuritic symptoms, so rapidly succeeded by intense dyspnoea, with inability to remain in a recumbent position, together with the death-stricken aspect of the patient, (closely resembling that of one suffering from the rupture of some important viscus and the extravasation of its contents), left little doubt that extensive effusion had occurred within the pleural cavity; while the development of these symptoms in one suffer-

* I have usually found a light coloured appearance of the liver associated with confirmed and not unfrequently with congestive disease of that organ.

ing from carbuncle, and in a manner so similar to those which terminated the life of the male patient, led me to suggest, two days previously to her death, that the effused fluid would very probably be found of a sanguinolent character. And I may here remark, that the presence of the colouring matter of the blood, in the inflammatory serous effusions of these patients, is highly characteristic of the debilitated state of the capillary system, which usually appears to precede the occurrence of the asthenic forms of anthrax; as it is probable that, while the serum poured out from the inflamed surfaces in the earlier stages of the pleuritic or peritoneal disease is at first of the usual flavous colour, so soon as minute vessels begin to shoot into the fibrin deposited upon the serous membrane, these (partaking of the tendency to rupture to which the whole of the capillary vessels are so liable in most cases of extreme cachexia) give way, and allow of the effusion of blood into the cavity: that this occurs is proved by the fact, that large coagula of pure blood are occasionally found within serous cavities suffering from idiopathic inflammation, as well as by the frequent occurrence of small ecchymosed spots, or of extensive patches of grumous appearance in the loose false membranes covering the inflamed tissues in instances of pleurisy, pericarditis, and peritonitis, where the effusions present a sanguineous tint.

Although it is probable that the position of a carbuncle in the immediate vicinity of a serous membrane may, to a certain degree, render that surface liable to become the first attacked by inflammatory action, under a condition of the system predisposing the serous tissues to take on such a state, it is in the last degree improbable that the forms of inflammation under consideration are entirely attributable to the transmission of inflammation from without to within; for it is certain that where the lining of the cavity nearest to the external disease is the first that becomes affected, other membranes at a distance seldom fail to participate in the mischief, taking on inflammation of a similar type, and suffering from it in an almost equal degree. And, again, it must be submitted that some of the cases which have been cited above go far to prove that where a carbuncle exists in the

neighbourhood of an important cavity, the patient may die of inflammation of distant organs or membranes; those nearest to the anthrax remaining perfectly intact. This fact is farther confirmed by the observations of Professor Cooper, who relates the case of a gentleman suffering from anthrax, who died from the sudden occurrence of suppurative inflammation in several large joints of the lower extremities. I may also add the following case from the *Med. Chir. Review**:—A man came under treatment with a carbuncle of five days' standing, situated upon the left side of the neck: the parts surrounding it were much swollen, from the presence of air and serum in the cellular tissue. He was suffering from a good deal of debility, some cough, with uneasiness on the left side of the chest, and a slight tenderness of the belly under pressure. These symptoms had been coming on for three days. The uneasiness of the chest and abdominal tenderness increased, and nothing but wine could be retained in the stomach. On the night following the third day of his treatment he expired. On dissection about a pint of sero-purulent fluid was found in the peritoneal cavity; the veins on the surface of the stomach and omentum were filled with blood; some recent lymph was attached to the convex surface of the stomach, which was immensely distended; its coats were greatly thickened, and there were several dark oval spots of gangrenous appearance upon its mucous membrane, varying in size, some equalling a six-franc piece in diameter: there were also some obscure marks of similar changes in the commencement of the ilium†.

Again, it cannot be successfully argued that the implication of the serous membranes in these cases is alto-

* Vol. xiii. p. 545.

† The appearances presented by the interior of the stomach and small intestine in this case, together with those of the lining membrane of the ascending colon in the case of Field, show that severe lesions of mucous membranes are apt to accompany the forms of serous inflammation now under consideration. I have notes of the case of a patient who died of sanguinolent effusion into the right side of the chest (independently of carbuncle) in whom the intestines were found much injected, and some portions of their coats immensely thickened by extravasated blood. M. Sanson, in his article on Anthrax in the *Dict. de Méd. et Chir.* observes, that, if the anthrax is large, gastro-enteritis is likely to occur, and destroy the patient. He considers this the most common severe internal complication attendant on carbuncle.

gether owing to the absorption of putrid matter from the gangrenous surface; for it has been shown in two of the above cases, and might be further evidenced by many others, that the gangrenous action may continue for weeks, and, with some intervals, even for months, and still fail to be followed by internal inflammation, until the interposition of some other morbid cause establishes this state in its most intense severity. It will be noticed too that, in the case of the woman Field, the carbuncular sore, after long sloughing, had remained perfectly free from gangrenous action for more than a fortnight previously to her death. It therefore appears that we must look farther than the carbuncle itself for the causes which produce these dangerous forms of inflammation in cases of anthrax.

Although few modern practitioners neglect to combine constitutional with topical treatment, in the management of carbuncular disease, there seems to be far too great an inclination to consider it as an almost purely local affection, rather than that which, in a great majority of instances, it really appears to be,—the effect of a state of general debility of the vascular and nervous systems, combined with diseased conditions of certain internal organs resulting from the frequent alternations of confinement and exposure, privation and excess, with numerous other vicissitudes to which the victims of this disease have usually been long subjected.

In considering the pathological characters of anthrax, as it occurs in broken-down habits, we can scarcely fail to be struck with the marked resemblance which exists between the constitutional state of those in whom it is developed, and that of individuals who are suffering from other types of cachectic disease, and especially those forms of it which are attended by a generally weakened condition of the capillary system. Thus, it has been seen that patients, the subjects of carbuncle, are liable to perish from the occurrence of sanguineous effusions, almost precisely similar to those which are frequently observed in the serous and synovial cavities in fatal cases of sea-scurvy. Again, anthrax may occur in conjunction with purpura; and it is well known that purpura itself has a tendency, especially in weakly children and debilitated adults, to produce

confirmed and extensive gangrene of the parts which it affects. Lastly, the cachectic forms of ecthyma, and furuncle (a disease which differs from anthrax only in degree and extent), have not unfrequently been noticed as occurring together in the same individual. These facts, taken in conjunction with the outward appearances which this form of anthrax itself presents, together with the characters of the morbid changes which lead to the termination of its fatal cases, draw us to the conclusion that the occurrence of asthenic carbuncle is commonly, in a great measure, dependent upon an extremely debilitated state of the vascular system generally, and of the capillary vessels more especially. It is observable, in the dissection of those who die of acute lesions supervening upon anthrax and other similar forms of external ataxic disease, that, over and above a generally weakened and flabby condition of all the thoracic and abdominal viscera, there are certain internal organs which appear more especially liable to be found the subjects of confirmed disease. The organs most frequently thus affected are the liver, spleen, and kidneys.

Dr. Copland observes, that congestions or inflammations of the liver and enlargement of the spleen are among the most frequent complaints associated with carbuncle*. An enlarged, and often a softened condition of the latter organ, has been noticed as an almost inseparable concomitant of asthenic inflammatory disease, especially when death has resulted from the intervention of an acute attack: and I am inclined to believe that a more or less congested state of the liver is seldom absent where (as appears to be frequent in the latter stages of anthrax) the kidneys are the subjects of acute disorder. It will be observed, that in two out of five cases of anthrax given above, the kidneys were found in a congested and softened condition; while in a third the existence of a state of high vascularity in these organs may be presumed from the occurrence of hæmaturia for several days previously to the patient's death†. Although

* Med. Dictionary, vol. i. p. 1055.

† In another of the five cases, that of Watkins, the kidneys appeared healthy; but this man died from the effects of chronic disease. In the fifth, (from the Med. Chir. Review), which was an acute case, the state of these organs is not mentioned.

many valuable observations have been made upon the dependence of those dangerous forms of acute serous inflammation which frequently occur in patients suffering from a tendency to renal anasarca upon vascular disease of the kidneys, I must venture to suggest that scarcely enough stress has been laid upon the fact, that the period at which serous, sero-purulent, or sanguinolent effusions into the serous cavities appear most liable to occur, is during those earlier stages of the disease, when long-continued congestion of the renal tissues has just given place to acute inflammation, and hence a liability to partial suppression of the urinary secretion has been induced; or where the functions of the diseased glands have become still further impeded from the deposition of fibrinous matter (mottling) in the secreting structures. In referring to the cases of sanguinolent effusion, which have come under my own notice, as well as to a large number of others perfectly analogous to these, except in the absence of red colouring matter in the effused fluids, (the appearance of blood in these products being, in all probability, dependent merely on a greater degree of vascular debility), I find but very few in which there were not also present more or less traces of acute renal inflammation; and these frequently appearing so recent as to lead to the belief that the diseased organs had exchanged a state of old congestion for one of active hyperæmia only a few days or perhaps hours antecedent to the occurrence of the effusions*. It is difficult to form a precise conjecture as to what relation exists in these cases between the weakened condition of the general capillary system and the above described states of disease in the abdominal viscera. It may be that the blood, having become vitiated in these patients, continues to act gradually upon the capillary vessels of the surface, as well as upon the structures of the depurative organs through which it passes, until it produces a tendency to inflammatory action, and consequent

disorganization in each; or it may happen that disease (the result of long-continued exposure to various hardships, and the use of improper stimuli) having been established in the organs of secretion and excretion, an unhealthy character is given to the circulating fluid, which, in its turn, acts injuriously upon the structures of the capillary tubes, until at length a tendency is produced to external gangrene and internal effusions. A far larger number of instances of carbuncle terminating in acute disease of the serous membranes must, however, be adduced before the uniform existence of a liability to renal inflammation during the progress of anthrax can be fully established; but it is hoped that sufficient has been advanced to lead to more extensive observations on this really important subject.

I shall conclude these observations with a few brief remarks upon the treatment of asthenic anthrax and its complications. It is unnecessary to enter upon a detail of the well-known surgical means which M. Dupuytren and others have pointed out the propriety of employing during the earlier periods of most cases of anthrax, with the intention of laying bare the sloughing cellular tissue, and preventing the extension of the surrounding inflammatory action. In the more advanced stages of the disease, the chief indication (after that of maintaining the patient's strength, and endeavouring to impart new tone to the system by the administration of mild tonics, together with moderate quantities of such stimulants as he may have been in the habit of using), is that of endeavouring to ward off the occurrence of those terrific forms of internal inflammation to which I venture to submit I have succeeded in showing, the state of the patient renders him most imminently liable, by guarding him from all causes of undue excitement, fatigue, exposure to cold, and excess in the quantity or quality of his food; from every thing, in fact, which can tend to increase the present depression of his nervous system, or to produce congestion in those internal organs which, already greatly disordered, must continue, up to the time of his convalescence, to be constantly menaced with the danger of almost irreparable disease. Bearing these points in mind it will be requisite

* Dr. Bright, and other writers on renal affections, have adduced cases which prove that active inflammation in the serous cavities may also occur where acute disease of the kidneys becomes superadded to the more chronic states of degeneration, (extreme contraction, for example), to which these organs are liable. See Dr. Bright's remarks on a case of renal disease, in Guy's Hospital Reports, vol. v. p. 142.

to equalize, as much as possible, the actions of the liver and kidneys, and to relieve them, in some measure, from excessive function, by bringing their compensating organs fully into play. Probably no condition of disease deserves more strictly the term "hopeless" than that of a patient exhausted by numerous vicissitudes, and the influence of long ill health, sinking under the combined attack of an external gangrene, and within, perhaps, inflammation of the peritoneum, double pleurisy, and extensive disease in the substance of both lungs—a state which is, however, rendered hopeless, less on account of the extensive nature of these lesions than from the extreme inability in the patient's system to receive, otherwise than with injurious effects, the chief of those remedies which are usually resorted to for the palliation of acute inflammatory action. Active depletion and strict antiphlogistic treatment are negatived by the state of utter depression in which the patient lies. Antimonials are here destitute of the efficacy which they possess in cases of more sthenic disease; and mercurials, in large doses, are well known to be totally inadmissible. Perhaps the only remedy, upon which any reliance should be placed, is opium, given in the large and often repeated doses recommended by Dr. Stokes, as highly efficacious "in certain cases of inflammation of serous and mucous membranes, where depletion by blood-letting and other antiphlogistic measures are inadmissible, and the system in a state of collapse." But this remedy could only be used while there was entire freedom from symptoms of coma or meningeal effusion. The use of mild diffusible stimuli will also be required; and counter-irritation, applied over the situations of the internal inflammation, but so moderately as not to produce extensive lesion of the surface, already too liable to gangrenous inflammation, may assist the action of the other remedies. By directing the attention to the state of the kidneys during the early stages of these dangerous attacks, carefully noting the quantity of urine passed, and testing that secretion for the presence of albumen, we might also be able to lessen the severity and extent of the impending serous effusions by the timely employment of those means which are best calculated to lessen a tendency to con-

gestion in the kidneys, or to abate inflammatory action, should it already have taken possession of their structures.

5, Haymarket, Sept. 1841.

OBSTETRIC PHYSIOLOGY
CONSIDERED IN REFERENCE TO THE PRESENT
STATE OF
DEVELOPMENTAL SCIENCE.

To the Editor of the Medical Gazette.

SIR,

THE science of embryology, in the hands of its present zealous and successful cultivators, is gradually undergoing a complete revision, and must ere long assume an entirely new aspect.

But, although of great physiological interest and value, its doctrines cannot be discussed by obstetric lecturers to their classes, to the exclusion of more practical subjects.

Again, its details comprise so vast a mass of literature, much of it foreign and untranslated, and its discoveries and theories have of late so rapidly succeeded each other, that the limited period of medical education precludes the student examining them for himself.

At the same time, rightly to appreciate the important bearings of embryological research on the phenomena of utero-gestation, is to every obstetrician of the utmost consequence.

Under these impressions I have endeavoured to present a simple and concise view of the more obscure and difficult points connected with this department of physiology; and shall feel obliged by its early insertion (if approved) in your instructive and excellent publication.—I remain, sir,

Your obedient servant,
JOHN COVENTRY, M.R.C.S.

Reading, Berkshire,
Oct. 1841.

The primitive and most pervading organic structure of the animal and vegetable kingdoms is cellular web, or tissue; of which the simplest form is a nucleated cell.

This cell, from its property of generating others, is termed a cyto-blast (*κυτος* a cell, *βλαστος* germ;) and consists of two parts—the nucleus, and its centre the nucleolus.

This elementary form of cellular existence is, in the animal creation, termed *mucus*, or *gelatine*; in the vegetable world, *gum*: these constituting the rudimentary types, of which all the complex and elaborate tissues of these economies present so many modifications.

Nature's grand scheme, therefore, is unity of organization; which principle being ever borne in mind in the investigation of her operations, cannot but lead to philosophical and correct results.

I state this *in limine*, because, as will shortly appear, its application to the study of embryonic evolution is all-important.

From the leading distinction of the animal series into *ovipara* and *vivipara*, one might justly apprehend a corresponding diversity of the generative process; still, the more minutely are examined their respective phenomena, the fainter becomes that (at first, and to superficial observers) broad line of demarcation between them.

To offer one very general illustration:—

The evolution of the chick in ovo obtains within a calcareous shell; and what are the essential conditions of this process? warmth, and the access of atmospheric, that is, oxygenated, air! The development of the fœtus in utero proceeds within the maternal system. And what are now the necessary conditions of the process? Precisely identical!—a certain animal temperature, and the presence of oxygen.

In the one instance, the vivifying agent permeates the porous shell generally, and collects at one particular spot, to form a pabulum or reservoir for the supply of the new being, the folliculus æris*; in the other it is supplied to the embryo through the medium of a pervious membrane, to form a pabulum termed placenta.

It is now proposed, under the heads of Ovarian, Ovular, Tubal, Uterine, and Utero-ovular phenomena, to consider the structural and functional results of impregnation, in accordance, as closely as may be, with the views of the most accurate observers of the day.

Ovarian phenomena.—The ovary is

the most important of the female generative organs.

It is the seat of conception; and on it depend, in the human female, the catamenial secretion, the establishment of puberty, sexual appetency, and the capacity for procreation. It was formerly considered the analogue of the testis, and accordingly termed testis muliebris. It is now clearly established, however, that the ovary does not, like the testis, secrete a seminal fluid; but that its function is to preserve, in a *fecundable* state, a certain number of vesicular bodies, termed Graafian vesicles—the eggs of the human species.

Nevertheless, there is an intimate correspondence, both of structure and mode of development, between the testis and ovarium.

Both are evolved after the type of glands; both invested by a serous membrane; and both contained in a dense fibrous capsule.

The structural distinction is, that the composition of the body of the testis is tubular; of that of the ovary, follicular; according of course with the difference of their respective functions.

These anatomical affinities merit attention in reference to the pathology and treatment of the diseases of the parts in question.

But to return from this digression: conception does not, as was once supposed, occur in the uterus; but the male fluid, by the ciliary motion of its spermatozoa, or seminal animalcules, actually reaches the ovary.

That this really obtains in the human female, is inferred from observations made on vegetables and the lower animals.

Thus, in vegetables, the pollen capsules are transmitted through the micropyle of the embryonal sac to its nucleus.

In animals the male semen is, in some instances—the frog and toad for example—shed at once over the ova as they leave the cloaca.

Seminal fluid has been observed in the ovary of the bitch and the rabbit by Drs. Bischoff, of Heidelberg, and Rudolph Wagner, of Göttingen; and in the uterine cornua of the same animals by Prevost and Dumas.

The human ovary is composed of a serous peritonæal investment; a tunica propria, or dense fibrous capsule; a parenchyma, constituting the bulk of

* Dr. Bischoff, of Heidelberg, has analyzed the air of the folliculus, and found it to contain an excess of oxygen.

the organ, composed of condensed cellular tissue, in which ramify the spermatic capillaries, and from which are evolved from fifteen to twenty vesicular bodies termed the vesicles of De Graaf.

Of these structures the Graafian vesicles are alone important in an embryological point of view.

They are the containing structures of the ovum, and bear not only on the subject of conception, but also on the phenomena of menstruation.

That a Graafian vesicle is ruptured, and a so-called false corpus luteum formed under every catamenial *nisus*, is a theory which has at present many abettors. Hence Dr. Power's definition of menstruation—"disappointed pregnancy"; being attended according to this view by the loss of a Graafian vesicle, and the escape of whatever the female contributes towards the formation of the embryo.

This hypothesis presupposes, however, the reproduction of the vesicle—a question as yet *sub judice*.

Now, on the escape of the vesicle, its coats always remain behind—the outer consisting of the vascular stroma or substance of the ovary; the inner a freely secreting surface. It appears to me, therefore, that in them we have, in every respect, the requisite apparatus for its reproduction.

Again, it accords with the general physiological law of all other parts, by which fresh material is constantly assimilated to our bodies, and existing particles removed.

The physiology of the Graafian vesicle presents a beautiful instance of the adaptation of means to an end, or rather of one organ to various functions.

In the growing ovary, its external coat—highly vascular, fed by the capillaries of the spermatic artery—supplies the material to the developing structures of the ovum. The inner layer, structureless, and of extreme tenuity, permits a constant and free endosmose of the nutrient elimination.

Under impregnation, the Graafian vesicle serves as a kind of temporary uterus to the ovarian ovum, which as yet lives by imbibition.

And now the important function of its lining membrane is demonstrated by a corresponding structural increase; it becomes greatly developed and thrown into folds.

This hypertrophy of the lining membrane answers a double purpose. In addition to affording a more extensive secreting surface for the nourishment of the germ, it presses the ovum outwards towards the surface of the ovary; the peritonæum at that period thus becomes thinned, and absorbed; a similar process removes the ovarian stroma, and the coats of the vesicle itself; and then the ovum enters the fallopian tube.

The ovarian site of an impregnated ovum is known, in mammalia, by a prominence or semi-transparent spot; in birds, by a white line, termed stigma.

In both classes the ovary at this particular point is structureless, so that dehiscence of the calyx, in the one case, and rupture of the Graafian vesicle, in the other, cause neither pain nor hæmorrhage.

That the escape of the ovum from the vesicle is effected by means of the development of the lining membrane of the latter, is objected to by Drs. Montgomery and Paterson, and other eminent men.

According to these observers, a soft, gelatinous, yellowish-red substance, is secreted by the lining membrane of the vesicle between its two envelopes, which surrounds the vesicle at every point, except where it is pressed outwards towards the ovary. The lining membrane, it is said, is thus subjected to pressure from within outwards, and so the process of absorption set up.

Dr. Robert Lee, again, supposes a deposit to occur external to both layers of the vesicle. The analysis of a corpus luteum offers the readiest and most philosophical solution of the problem.

Now, a true corpus luteum (and the term false corpus luteum is one of the grossest solecisms of physiological technology) presents the following appearances:—

1st, A seam over the surface of the ovary, whence the ovum has escaped.

2dly, A yellow body, oval in shape, of a rich glandular structure, very vascular, and exhibiting in its centre, early after parturition, a cavity; later, a radiated white cicatrix.

Now on what changes of the previous economy can this new arrangement depend? The seam evidently results from the absorption of the textures already mentioned.

The rich glandular structure—aptly described by Hunter as tender and friable, like glandular flesh—will represent the gelatinous yellowish-red deposit of Dr. Montgomery and others.

Then there remains to be accounted for the cavity and radiated white cicatrix. Now the escape of the ovum explains the formation of the cavity; but whence the radiated or stellated cicatrix? I think the most rational answer is, that the lining membrane of the Graafian vesicle retains in its closure the plicated disposition assigned to it by Von Baër and others; and that the stellated appearance is the consequence of the gradual approximation of its folds. Judging from these appearances, therefore, I consider the opinions of both parties reconcilable; and that the phenomena described, both by Dr. Montgomery and Von Baër, contribute to the escape of the ovum, and formation of a corpus luteum.

Nor can I see any incompatibility in supposing that, with the increase both of substance and vascularity of the outer layer of the vesicle, should be combined a corresponding development of its internal absorbing membrane.

Secondly: *Ovular phenomena*.—The primordial trace of an ovum, both in birds and mammalia, is a nucleated cell or simple vesicle, having a central dark point; the vesicle is the germinal vesicle, or vesicle of Purkinje; the central point, the germinal spot of Wagner.

This vesicle is originally secreted in a fluid state from the vessels of the stroma or substance of the ovary.

So far the development of the ovarian ovum of the bird and mammal coincide. Now, however, some modifications occur, of which the rationale is now to be considered.

In the bird's ovum, a transparent colourless fluid is deposited around the germinal vesicle, in which soon appear dark granules.

These granules grow with the ovum, thickening towards their surface; they form the *vitellus*; their thickened circumference,—its *membrane*.

Between the vitelline membrane and the calyx is situated the chorion, a structureless membrane, which, by its external surface, coalesces with a layer of ovarian stroma to form the calyx.

According to Wharton Jones, Coste, and Martin Barry (second series), this membrane is wanting in the ova-

rian mammiferous ovum: it is, however, analogous, both in function, position, and order of formation, to the inner layer of the Graafian vesicle, which at first is termed ovisac.

The calyx is the proper capsule of the ovarian ovum (oviparous): it is formed of condensed ovarian stroma, and is the representative of the outer coat of the mammalian Graafian vesicle.

In the mammal's ovum, the order of development, commencing from the appearance of the germinal vesicle and spot, is as follows:—

Two classes of granular formations are deposited around the germinal vesicle, viz. peculiar granules, and oil globules: outside both of these forms a membrane termed ovisac.

The oil globules now cluster around the vesicle, and constitute the vitellus or yolk. It is now pretty generally admitted that the mammalian ovarian ovum has no proper vitelline membrane, but that the peripheral globules cohere by their own attraction.

Between the vitellus and the peculiar granules, and immediately surrounding the former, is a thick albuminous stratum, termed zona pellucida, now considered the analogue, not (as was formerly maintained by Drs. Martin Barry and Coste) of the chorion of the bird's ovum, but of the proper vitelline membrane.

The peculiar granules arrange themselves in various dispositions within the ovisac, forming three distinct classes, termed by their discoverer, Dr. Martin Barry, *membrana granulosa*, *tunica granulosa*, and *retinacula*.

Lastly, the ovisac derives an envelope from the vascular stroma of the ovary, and constitutes with it the Graafian vesicle.

[To be concluded in our next.]

PERFORATION OF THE STOMACH.

To the Editor of the Medical Gazette.

SIR,

SHOULD you think the following case worthy of being recorded in your valuable GAZETTE, you will oblige me by giving it a place at your convenience.

Your obedient servant,

JOHN MOYLE,

M.R.C.S.L. &c. &c.

Chacewater, 7th Oct. 1841.

On Wednesday, the 29th ult., at 4 P.M., I was requested to visit Mary M., aged seventeen years. About an hour previous to my seeing her, she had been seized with severe pains in the stomach and abdomen (shooting to the right shoulder), aggravated in paroxysms and on pressure; the pulse was extremely quick, small, and depressed; extremities warm; the countenance expressive of hopeless anxiety; and the stomach occasionally rejected its contents. Bleeding (to ʒiij. only), instead of being followed by the satisfactory rise of the pulse which we look for in ordinary cases of membranous inflammation, caused only greater rapidity and further exhaustion. Her bowels had not been opened since the 25th. Warm fomentations, mustard poultices, purgatives, creosote, and turpentine injections, gave little or no relief.

30th, 8 A.M.—She had passed a very bad night as to pain; she had voided only a very small quantity of high-coloured urine; tongue clean; skin pale; no medicine remains on her stomach; bowels have not been relieved by the injections. She had been subject to pains in the stomach for four or five years, and had never menstruated; could lie on her back only: there was no hernia in any of the usual situations.

5½ P.M.—Pain still very severe; distressing vomiting and urgent thirst; bowels not yet open; extremities cold. From the moment of the seizure to its fatal termination no remedy gave relief, and in twenty-six hours the poor girl was released from intense suffering.

Post-mortem examination, 18 hours after death.—The body, which inclined to *embonpoint*, presented no mark of disease externally, excepting a tympanitic state of the abdomen, which had commenced slightly before death.

The abdominal cavity contained a considerable quantity of air, and about three pints of dirty yellowish fluid. The intestines were slightly streaked with red, and their walls were slightly adherent together by soft recently effused lymph. This peritonitis was found to have been caused by the effusion of the contents of the stomach through an ulcerated aperture in its walls. The ulcer was circular, about three-eighths of an inch in diameter, with hardened edges. It was situated about two inches and a half to the

right of the œsophageal opening on its anterior wall; the cellular tissue, for about three inches in length, and one and a quarter in breadth, was thickened, brawny, and puckered like a cicatrix. The internal surface of the stomach presented a funnel-shaped ulcer through its coats, the size of a shilling, without any surrounding inflammatory blush: there was a second ulcer about two inches below the first, of greater size, but of the same character, effusion being prevented only by its peritoneal covering. The liver was small, very white, and bloodless when cut into; and its texture easily broken down with the finger: the gall-bladder contained about an ounce and a half of thin and very light-coloured bile. In every other respect the abdominal viscera (I was not allowed to open the chest) presented the appearance of perfect and very robust health.

The only novelty which this case possesses is the absence of pain "*between the shoulders*," which has been considered, by Dr. Abercrombie and others, as practically diagnostic.

It is also confirmatory (if further proof were wanting) of the extent to which disease of the cardiac extremity of the stomach may proceed, without apparent loss of health.

AN EXAMINATION
OF THE
TESTIMONY RELATIVE TO THE
EFFICACY OF THE HYDRATED
PEROXIDE OF IRON AS AN AN-
TIDOTE OF ARSENIC,

WITH DIRECTIONS FOR ITS PREPARATION
AND EXHIBITION.

BY T. ROMEYN BECK, M.D.

(*From the Amer. Journ. of the Med. Sciences.*)

It is now about six years since the use of the peroxide of iron was introduced to the notice of the public. It has been made the subject of numerous, and, for the most part, satisfactory experiments on animals: it has been frequently exhibited to persons poisoned with arsenic, and, in many instances, with success. It is also a substance very easily prepared, and one that can always be kept on hand either by the physician or druggist.

These circumstances might be supposed sufficient to establish firmly the character of any antidote, and I do not doubt but that it is thus viewed by those who have from time to time noticed the testimony adduced in its favour; but this has, in many instances,

consisted of brief notices of successful cases or experiments scattered through the selections and summaries of medical journals, and hence has possibly not made that impression which a collection of the whole would produce. With a view to promote that desirable object, and, at the same time, to urge an early exhibition of this substance in all cases of poisoning by arsenic, I have ventured to prepare the following observations. I propose to follow the following order: 1. A notice of the discovery. 2. The results of experiments on animals. 3. The efficacy of its exhibition on man. 4. The mode of its preparation and exhibition.

I. The earliest notice that I have seen of the efficacy of peroxide of iron as an antidote is contained in a letter addressed to M. Poggendorf, the editor of a German scientific journal, by Dr. Bunsen, bearing date Göttingen, May 1, 1834. In the same year Drs. Bunsen and Berthold jointly addressed a communication on the same subject to the Academy of Sciences at Paris. It had been previously established by the experiments of Ranault and others, that the native arsenite of iron (mispickite) is nearly innocuous to animals; and, on this fact, the investigation of Drs. Bunsen and Berthold seemed to have been founded. They also ascertained that "a solution of arsenious acid is so completely precipitated by pure hydrate of iron, recently precipitated and suspended in water, that a current of sulphurated hydrogen gas passed into the liquor after filtration, and the addition of a small quantity of muriatic acid, does not indicate the presence of the smallest quantity of arsenious acid. Again, if a few drops of ammonia be added to the peroxide, and it be digested in a gentle heat, with arsenious acid, reduced to fine powder, a sub-perarsenite of iron is formed, which is perfectly insoluble. Encouraged by these results, they proceed to perform

II. *Experiments on animals.* — From four to eight grains of arsenic were given to two young dogs, and the œsophagus was tied to prevent vomiting, and the peroxide was then exhibited. They lived more than a week without manifesting any symptoms of poisoning. A quantity equal to four or six drachms of the peroxide was deemed sufficient to transform in the stomach eight or ten grains of arsenious acid into insoluble arsenite. As, however, the hydrated oxide is innocuous, they advise its use in much larger quantity. Rabbits also which are destroyed by very small doses of arsenic were saved by the antidote.

Orfila and Le Sueur repeated these experiments on animals, and generally with favourable results. They found, however, that if the administration of the antidote was delayed beyond half an hour, all the symptoms of poisoning occurred, and death was the termination. M. Bouley, Junior, of

Alford, made an elaborate series of experiments on horses, and which were published in 1835. He ascertained, in the first place, that the peroxide was totally inefficacious in poisoning by arsenic of potash, (Fowler's solution), and for a manifest reason—the iron cannot overcome the affinity existing between its constituents. But when he gave white arsenic in doses of two ounces and upwards, and followed it by sixty-four ounces of the hydrated oxide, the animals survived. In several instances the horses thus treated were killed at the end of nine days, and the stomach and intestines bore the marks of the action of the poison, but evidently in a mitigated degree, and sufficient to show that it had been promptly counteracted. In one case the antidote was delayed twenty-five hours, and the consequence was the death of the animal twenty-four hours thereafter, and the stomach, intestines, and heart, bore marks of the violence of the poison.

MM. Miguel and Soubeiran, of Paris, were probably the next experimenters. They found that, if a large dose of arsenic was given to dogs, and they were allowed to vomit, it produced no effect, and it was therefore necessary to tie the œsophagus. But this in itself is a fatal operation, and the time that the animal could survive required to be ascertained. A dog, whose œsophagus was tied, died in seventy-eight hours; but if nine or ten grains of arsenic were given, and the œsophagus then tied, death followed in two or two and a half hours. In their experiments they used the recently prepared peroxide of hydrated iron, mixed with water, in the proportion of twelve parts to one of white arsenic.

In several instances of dogs thus treated, they survived from seventy-eight hours to six days. But, if the exhibition of the antidote was delayed, the animals perished; and the time of death appeared to be hastened exactly in proportion to the delay.

Again, Drs. Borelli and Demaria, of Turin, performed experiments on dogs with even more favourable results. They consider that four and a half parts by weight of the peroxide are required to neutralize one of arsenious acid.

Dr. Van Spez, of Vienna, had similar success. He gave arsenic both in powder and in solution; and, though in the last the symptoms were more violent, yet in all the animals recovered. He even exhibited the rust of iron successfully.

Dr. Donald Mackenzie, of Edinburgh, has related a number of successful experiments on dogs, with arsenic in the solid form, followed by the antidote in the proportion of from twelve to thirty parts. They were killed either on the first, third, or sixth day after, and the stomach and intestines were found but slightly reddened.

Lastly, I may mention the result obtained by

a committee of the Academy of Medicine at Paris, in which not only the hydrated peroxide was found efficient on dogs, but also the common subcarbonate of iron largely suspended in water—four ounces in twenty-four of water. The committee advise that at least half an ounce of peroxide should be taken for each grain of arsenious acid supposed to remain in the stomach.

To all this mass of favourable testimony there can only be opposed the unfavourable results obtained by Mr. Brett and Mr. Orton (*MED. GAZETTE*, vol. xv. p. 220; *Lancet*, November 8, 1834). But it must be remembered that their investigations were made at an early period of the inquiry; and I may further adopt the remarks of Dr. MacLagan, of Edinburgh, concerning them.—“With respect to the former, it may be observed, that he appears uniformly to have used too small quantities of the oxide; and the experiments of the latter hardly seem to have been made with sufficient care, as appears, in one instance at least, from his having injected both poison and antidote into the lungs, instead of the stomach of the rabbit.

III. *Its effects as an antidote on man.*—In referring to these I must be brief, indicating merely the leading points worthy of notice.

1. The first case on record is probably that of M. Leger. A child, eighteen months old, drank a solution of fly poison, (probably a variable combination of black oxide of arsenic and oxide of cobalt), and was immediately seized with symptoms of violent colic. The accident was soon discovered, and the hydrated peroxide was instantly given. Its effects were completely successful within a few hours.—*American Journal of the Med. Sciences*, vol. xvi. p. 239.

2. M. Geoffroy, of Paris, gave it in twenty minutes after arsenic, stirred about in water, had been swallowed by a man aged 36. Four or five pints of water, charged with it, were given in a quarter of an hour. Vomiting ensued, but the patient suffered none of the ordinary symptoms of arsenic. He had taken a drachm and a half of arsenic. The next morning he was well.—*Brit. and For. Med. Review*, vol. i. p. 572; *American Journ. Med. Sciences*, Feb. 1836, p. 501.

3. Drs. Bineau and Majesté, of Saumur, in France, relate five cases that occurred in 1835. As many little girls aged from five to nine years, on leaving school, ate part of a cake, containing one-fifth of its weight of white arsenic, which had been prepared to kill rats. They all were affected violently with the early symptoms of poisoning, and were not seen until two hours or more after the accident, yet all recovered by the free use of the antidote.—*Brit. and For. Med. Review*, vol. i. p. 573.

4. Dr. Buzorini, relates in *La Lancette Francaise*, November 17, 1835, two cases

successfully treated.—*American Journal*, August, 1836, p. 504.

5. Dr. Chilton, of New York, in the United States, *Med. and Surg. Journal*, vol. iii. p. 54, also relates a successful case.

6. Mr. Robson, of Warrington, administered with success, first, the subcarbonate of iron, in doses of six drachms, two hours after the poison had been taken, and afterwards the prepared oxide. Nearly three drachms of arsenic had been swallowed.—*American Journ. Med. Sciences*, May, 1837, p. 222.

7. Dr. Thomas, of Baltimore, in a case where twenty grains of arsenic in powder had been given, gave the peroxide with success.—*American Med. Intelligencer*, vol. ii. p. 117.

8. Dr. Macdonald—a successful case in *New York Journal of Medicine and Surgery*, vol. ii. p. 205.

9. Dr. Gerhard—a successful case in the *Philadelphia Med. Examiner*, v. iii. p. 250.

10. Drs. Smiley and Wallace in the *Philadelphia Medical Examiner*, vol. iii. p. 679; out of a family of eight persons poisoned by a pudding of Indian meal, prepared for rats, death followed in two cases in seven and nine hours. They could not retain the antidote, but immediately rejected it. The symptoms of all the others were immediately mitigated by its use, and they all recovered.

11. Dr. Murray, of India, successful.—*Amer. Journ. Med. Sci.* Feb. 1839, p. 503, from the *Calcutta Medical Journal*, December, 1837.

12. Dr. Deville, of Paris, successful.—*American Journ. Med. Sci.* May, 1839, p. 243.

13. Dr. Puchelt, Jun., seven cases of recovery.—*Edinburgh Medical and Surgical Journal*, vol. liv. p. 263.

It would not be difficult to add considerably to this list. But I have adduced enough to warrant a belief in the efficacy of the antidote. I trust, however, that none of my readers will be led to suppose, that, in cases of poisoning by arsenic, they are to depend solely on it. Vomiting should be promoted as early as possible, and, indeed, every mode now in use for the speedy evacuation of the poison. The antidote will find sufficient to operate on what still remains and cannot be removed.

14. *The mode of its preparation and exhibition.*—Lassaigue had recommended the following process:—Take iron turnings, pour on them four times their weight of the nitric acid of commerce gradually, so as to avoid too rapid an action. A portion of the nitric acid will yield its oxygen to the iron, and change it to a peroxide, which unites with the undecomposed nitric acid, and forms perntrate of iron. As soon as the action of the nitrous vapour has ceased, add

ten or twelve parts of water to dissolve the pernitrate and to precipitate the undissolved turnings. Decant and filter the solution, and add aqua ammonia, until litmus paper becomes blue. A yellowish-brown precipitate is formed, which is the hydrate, and which should be washed with boiling water, to free it from the remains of the acid.

Drs. Bunsen and Berthold, however, prefer that preparation obtained by taking a pure solution of the sub-sulphate of iron, increasing its dose of oxygen by heating it with nitric acid, and then pouring into the solution an excess of caustic ammonia. The hydrated oxide is now obtained by decantation. They advise that the nitric acid be added in small portions at a time, otherwise a quantity of the neutral sulphate of the sesquioxide is separated in the form of a yellow powder, which is but slightly soluble. They also insist on the danger of using any other alkali than ammonia.

The Edinburgh College has introduced it into its pharmacopœia, with nearly identical directions, which I copy from Dr. MacLagan's paper, already referred to. "Dissolve sulphate of iron in water, with a little sulphuric acid, adding nitric acid by degrees till it is thus fully oxygenated, and then precipitating the hydrated sesquioxide from the solution by an excess of ammonia. The product thus obtained is of a deep reddish brown." It should be carefully washed, to remove the ammonia; but this can hardly be completely effected without the application of heat; and I apprehend that this last is not to be recommended.

The dry hydrated oxide is inert. It is, therefore, necessary to keep the antidote, when prepared, under water. It may thus be preserved uninjured in its qualities for a length of time. - Professor Fisher, of Maryland, has shewn this conclusively in an elaborate paper in the twelfth volume of the *American Journal of Pharmacy*. "In the moist state, it is in the finest possible state of division, and hence best adapted as an antidote."

It is not necessary, therefore, to have it freshly prepared for every case, and the practitioner has only to keep a quantity on hand in closely stopped bottles, remembering to shake it well before administration.

As to the quantity necessary to be given, I will again quote Dr. MacLagan. "As far as chemical evidence goes, at least twelve parts of oxide, prepared by ammonia, and moist, are required for each part of arsenic; and this same proportion has been indicated by several of the French experimentalists as being required to insure its antidotal effects."

But it may be said that in some instances we cannot ascertain how much arsenic has been taken, and the inquiry may be renewed,

how are we then to act? To this, I reply, by recommending that to an adult, a table-spoonful, and for children a dessert-spoonful, should be given every five or ten minutes, until relief from the urgent symptoms is obtained.

MEDICAL GAZETTE.

Friday, October 15, 1841.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

MEDICAL REFORM.

THE present appears in every respect a suitable moment for investigating, calmly and dispassionately, the question of medical reform. We do not mean theoretical reform, such as might suit the circumstances of a new state, or of England revolutionized, but we mean sound, practical, reform—such as is adapted to the complicated condition of society existing in this country. Of the former we have had enough, and to spare; but of the latter, very little. Plans of speculative reform have been plentiful as blackberries; but unfortunately their authors have never thought it their duty to inquire how their proposed measures could practically have been carried into effect.

The agitation of medical reform succeeded to the agitation of parliamentary reform, and, like municipal reform, and ecclesiastical reform, was one of the natural fruits of that important national change. It may be said to have commenced in 1833, by the petition to parliament of the Licentiates of the Royal College of Physicians of London. Individual reformers there have been, indeed, farther back than our memory extends, but the subject was never taken seriously in hand until that epoch. An epoch it undoubtedly was; and one of the most pleasing of our retrospects is the aid which this journal has uniformly af-

forded from that period to the cause of sound, moderate, practical, well-digested medical reform. It is, however, melancholy to reflect how little has been actually done by the government of the country during the eight years that have elapsed since medical reform was forced upon the attention of the legislature. The Herculean labours of Mr. Warburton, in 1834, did little or nothing for the profession. They led, indeed, to the establishment of a Metropolitan University, and so far they have succeeded; but this measure, important as it was to medical education, had no bearing on medical practice. To the honour of the College of Physicians of London it must be admitted, that the first advances towards sound practical reform in medicine were made by them. They are the oldest of the corporations, and undoubtedly ought to have set the example. True, they have done no more than their duty; but if they deserved censure for their obstinate adherence to forms and rules opposed to the altered spirit of the age, so should they receive our just meed of praise when, seeing the error of their ways, they do that which is lawful and right.

The College of Physicians have made a beginning, and a good beginning; but much remains to be done. The present, we repeat, is a favourable time for considering what further measures are really desirable. The country is in a peculiarly tranquil state. The reform mania has been succeeded by a kind of national collapse. The country seems disposed to rest awhile on its oars, and to avail itself of the recent changes. The consequence necessarily will be, that government will have more leisure than formerly to devote to the disputes and grumblings of doctors. To that most pertinent question, but most difficult of solution—"Who shall decide when doctors disagree?"—the

government and legislature will probably be found, in the next session of parliament, very much disposed to reply. The interval may, we think, very appropriately be employed in clearing the way for that ultimate decision, on which the well-being of our profession so materially depends. Our talented correspondent, Dr. C. J. B. Williams, has, in two preceding numbers of our journal, prepared the way in some measure for the labours in which we shall from time to time, during the ensuing six months, be engaged. Our readers have doubtless read the suggestions which Dr. Williams has thrown out, both on the subject of medical reform generally, and on that of the College of Physicians specially. We shall frequently revert to these letters of our correspondent, because though in many points we shall have occasion to differ from him, yet the opinions which he delivers emanate from one who is entitled, from his position in the profession, to respectful attention.

The measures of reform which the College of Physicians has already carried out, and those which it is proposed to adopt, have recently been laid before our readers*. It is to us a source of no small gratification to be able to announce, that the general spirit of those projected changes was favourably received by the last government, who were prepared to have cooperated with the College in giving them effect. A like assistance may not unreasonably be anticipated from Her Majesty's present advisers. Let us therefore be ready to meet the government when the cause is, in legal parlance, ripe for judgment; and above all, let us be first agreed on the nature of those remedies which government might fairly be called upon to apply.

The Bill of last Session, nominally

* LONDON MED. GAZ. vol. xxviii. pp. 359 & 478.

brought in by Messrs. Hawes, Warburton, and Wakley, was confessedly an utter failure. We never remember such perfect agreement as all parties manifested in the repudiation of that legislative abortion. Its errors were too many, and too palpable, to excite stern criticism. It seems to have passed, *sub silentio*, to the tomb of all the Capulets. The idea of commencing an Act of Parliament by the definition of a medical man, and the farther absurdity of widening that definition, so as to include not only dentists and cuppers, but corn-cutters and staymakers, was too preposterous even for the out-and-out reformers, who threw the Bill overboard with as little ceremony as the three great Corporations. The utter failure of this first attempt at practical legislation in medical matters seems to have sadly disconcerted the *soi-disant* reformers; for ever since that period there has been neither energy nor cordiality in their proceedings. Let not, however, the Corporations hug themselves upon this, nor halt in their career of steady practical corporate improvement. Let them rather avail themselves of the occurrence, and steal a march on their opponents, while smarting under the self-inflicted lash.

The eyes of the profession appear now to be everywhere quite open to the absurdities of the one-faculty scheme—that scheme under which all existing medical corporations were to be melted down in one huge crucible, and to reappear in the shape of a medical parliament, with its proper accompaniments of annual elections, annual canvassings, annual ballotings, and universal suffrage. That this most monstrous scheme for the right government of a peaceable and scientific profession like that of medicine should have ever been supported, sanctioned, and encouraged, by respectable parties, is to us matter of grave astonishment.

We long ago foresaw, and repeatedly warned our readers, what would be the result of this levelling measure. Few could have been so misguided as to imagine that it would ever be actually carried into effect; and to every reflecting mind it was obvious that the proposition itself threw a discredit on the whole profession, and would, in truth, prove a serious obstacle in the way of rational reform. It is not difficult to trace this evil to its source. It has been the misfortune of the medical profession that hitherto its parliamentary supporters have been all inclined to the radical faith. Now we cannot do better than recommend to the profession generally that wholesome advice which they will find, in the present number of this journal, addressed by Dr. Kerrison to certain members of the body, namely, the surgeons of the parochial unions. He cautions *them*, as we would earnestly caution all, against confiding their interests to political partisans, or to democratic brawlers, and assures them that the best cause only hazards defeat by being made a subject for the display of party controversy.

We are glad to find that, practically, Dr. Williams agrees with us in this most vital feature of medical reform, and consents, in his scheme for the redress of medical grievances, to retain the distinctions of Physicians, Surgeons, and General Practitioners. He frankly acknowledges that these distinctions do not appear to have been productive of any injurious results to the public; but from his doubts whether, abstractedly, they constitute the best possible arrangement, we may gather, that he attaches no amount of positive advantage to the world, from such a division of professional labour. We need hardly repeat here the expression of our firmest conviction, that the interests of science, no less than those of the public,

have been, and continue to be, most essentially benefited by the existing distinctions in the medical profession. They are the natural result of a very highly civilized and complex condition of society. They have grown up with, and have adapted themselves to, the wants of the population. In the military service such distinctions are not required, and consequently they no longer exist; but, in civil life, the public voice demands them; and any scheme of medical reform which proposed either directly or indirectly to abolish them would fail to command general approbation.

These useful distinctions in the profession, however, entailing, as they almost unavoidably do, the necessity for separate governing bodies, and for various kinds of schools of medical instruction, have certain contingent disadvantages, which have long been felt and acknowledged,—not such as warrant us in cutting down the tree, but only in pruning, supporting, and training it. These governing bodies, and these schools of medical instruction, have all been working for many years past without concert, often without any control from superior authority, and, too often—it must be candidly acknowledged — without that spirit of liberal accommodation which one would desire to see prevail in the corporate and educational institutions of a great and united empire. The consequence is, that the Scotch surgeon cannot legally practise in England; nor the English surgeon in Ireland: while, on the other hand, the Scotch physician can practise without let or hindrance throughout the whole of England, barring the small circuit of seven miles from St. Paul's. Hence the diversities of curricula, the introduction of a separate course of botany into the already overloaded curriculum of the Apothe-

caries' Company, the anomalous position of accoucheurs in all the three kingdoms, the till-late untoward exclusion of Edinburgh graduates from all power of aspiring to the Fellowship of the London College, and the other thousand-and-one defects, real or supposed, of the present system of medical government in this country. Had there been in existence long ago some *central council*, some *board of controul* and revision, some *visitors*, specially appointed for the superintendence of medical affairs, not endowed with any power of initiating measures, but possessed of a simple veto, seeing to and providing that the by-laws and regulations of the several medical institutions and corporations throughout the country should not clash with each other, but should all combine into one harmonious whole;—if, we say, such an authority as this had existed in times past, and had done its duty effectively, matters would never have arrived at their present crisis of complexity and difficulty.

This brings us to the detailed examination of the first great measure which we would propound for the improvement of the profession—the institution of a board of medical control and supervision. But this is too wide and important a matter to be entered upon at the tail of a discursive essay on medical reform. We must devote a separate article to a subject of such grave importance, and promise our readers that it shall not be long ere we lay before them the several considerations involved in the constitution of a central medical council.

MEDICAL ESTABLISHMENT IN SYRIA.

WE beg to call the attention of our readers to an advertisement that appears on the wrapper of our present number, the object of which is the

formation of a Medical Establishment in Syria. Of the prospects which this step holds out of relieving an immense mass of misery, and of opening a channel through which christianity and civilization may become diffused over a large portion of Western and Central Asia, it is not our intention here to speak. Suffice it to say, that we fully enter into the philanthropic views of those who have instituted this Society, and firmly believe that their efforts are likely to realize fully as much as their most sanguine hopes can anticipate. We cannot forbear, however, offering a few remarks on this undertaking, as it is more directly connected with the medical and scientific world. As members of the medical profession, we hail with sincere pleasure the arrival of the day when so important a mission has been entrusted to the body to which we belong. That the relief of the physical sufferings of mankind is, in itself, a reward adequate to repay the most laborious researches, the closest studies, in which the medical practitioner can be engaged, none, we think, will deny: but when we see the conquests of our science brought to bear directly in ameliorating the spiritual and moral condition of our fellow creatures, we are confident that every member of the profession must feel that science to which he is devoted becomes encircled with far higher honours than any it has yet obtained. We cannot conceive a more noble application of that knowledge which the progress of medical science has put us in possession of, than that which constitutes its professors the pioneers of religion and civilization in a portion of the globe where their efforts alone are available, for overthrowing the dark barriers of Eastern superstition.

But the direct advantages to medical science which are likely to result from

this step, if properly conducted, are such as strongly recommend it to the support of the profession. The establishment of an enlightened body of medical practitioners on the coast of Syria, the land from which many of the founders of our art drew their facts, cannot fail to furnish us with data, of the highest interest to the student, of these sources of unperverted, untheorized observation.

There can be no doubt that many of the diseases described by the ancient Greek authors are here still to be met with, answering to the graphic fidelity of their description; and that a further acquaintance with the country in which these authors wrote, will serve to elucidate many parts of their works which are at present unintelligible. Here, too, we shall encounter some of those fatal diseases which, up to the present moment, have offered but too stubborn a resistance to the resources of our art. The frequency of the plague, and the more fatal forms of fever, on the eastern shores of the Mediterranean, can but invest this country with the greater interest to those who desire to see our art still extend its conquests over some of the worst scourges of humanity.

The prospect opened to those who shall first take possession of this fertile field of medical research (for at the present moment there is not a single medical man in the country) is most interesting: it presents, in fact, a field from which a person, gifted with even the common powers of observation, cannot fail of securing a rich harvest of facts for the advancement of medical science.

We think, then, that, both from the philosopher and the philanthropist, the objects of this Society merit a cordial support.

STATE OF THE MEDICAL PROFESSION.

To the Editor of the Medical Gazette.

SIR,

I HAVE observed, with much satisfaction, the earnest endeavour of Dr. Charles J. B. Williams to elucidate the present condition of the medical and surgical professions, and the expression of his intention to suggest the means of their improvement. I have not the pleasure of a personal acquaintance with that gentleman; but the context of his letter, and the philosophical spirit in which it appears to have been written, entitle him to my respect.

Having entered the medical profession in 1790 by the usual routine of an apprenticeship to a gentleman who had been (in 1780) a pupil of the Borough Hospitals, and having attended the anatomical lectures and demonstrations of the Hunterian School during the customary period, and, also, availed myself of other sources of instruction, I became a practitioner in pharmacy in London at the beginning of the present century.

Diligence and care, with such attention to the proprieties of life as is usual in members of our profession, led, in due time, to extensive occupation, and, of course, to an acquaintance with the general condition of the medical profession.

In the spring of 1812 many of the leading apothecaries in London formed an association, and convened meetings for the purpose of obtaining a remission of the duty on glass, which had been, then lately, imposed, so far as it affected and raised the price of phial glass. A committee was appointed, and a deputation of that committee solicited relief from the Chancellor of the Exchequer, in vain.

I did not join the association at that time; but some months afterwards—I think in December, 1812—I sent to the committee of that association a communication, consisting of three or four sheets of paper, comprising my own views of the real disabilities and degradations under which practising apothecaries laboured, who had been duly educated to their professional duties; and sketched out the mode of obtaining relief*.

The committee, I presume, thought well of those suggestions; for at their next meeting they solicited me to join the association, and placed my name on the committee. From that time I regularly attended their meetings, and, towards the autumn of 1813, became disgusted at the conduct of the heads of the several departments of the profession—which had been chartered for the purposes of its improvement, and for the protection of the public. Their silence, insidious proceedings, or disregard, under the most respectful appeals, appeared to me extremely culpable; and at one of the meetings of the committee I stated my determination, upon my own responsibility, to write a brief account of the state of the medical profession, to print it at my own expense, and to send a copy of it to every member of both Houses of Parliament, that they might judge for themselves of the necessity of legislative interference.

This was done, and, prior to the commencement of the session of 1814, every member of both Houses whose address could be ascertained† possessed a pamphlet of nearly 100 pages (in boards), in eight chapters, entitled “An Inquiry into the Present State of the Medical Profession in England and on the Continent of Europe, with an Account of its Condition amongst the Ancient Greeks and Romans,” and an abstract of all the laws and charters made in England concerning it.

This was a mere outline; but I believe that it was a correct one.

The earnestness with which the subject was treated, and my endeavours to rescue myself and other educated practitioners of pharmacy from being confounded with the herd of uneducated men, who had assumed our duties without having qualified themselves for the task, betrayed me, I fear, into some expressions which were deemed rather severe, but which really seemed proper, at that time, to rescue my department of the profession (Member of the Royal College of Surgeons, and of the Chartered Society of Apothecaries, called “General Practitioners,”) from that degradation in which it was merged,

that association, which were given over to the Society of Apothecaries in 1814 amongst other documents for the formation of their bill of 1815.

† I paid £6. to the distributors of Parliamentary Notices for the conveyance of this book.

* This must be still amongst the records of

and to bring the heads of the departments to, or at least to remind them of, a just sense of their duties to the public, by the practices of unqualified men, and to the general members of the profession.

The progress of time, and retirement from pharmacy in 1820, may have rendered me less active in that which has been vaguely called "medical reform;" but I have not been indifferent to the subject, nor unmindful of the just claims of my brethren, as may be seen by reference to the *MEDICAL GAZETTE* of August 19, and October 21, 1837, and September 15, 1838.

The expression "medical reform" might seem to imply merely an improvement in the medical qualification of "general practitioners." This, I think, has been accomplished by the Apothecaries' Act of 1815; but medical reform has, in my opinion, a more extensive import; namely, the just remuneration of medical services on public and private occasions; and I take upon myself to express, with more boldness than younger men of equal attainments might assume, my conviction, that, in the case of parish paupers, the usual pecuniary remuneration is a small, or fractional part, of their just due, for the extent of services required and performed.

A reform, therefore, is necessary on the part of the public; for, in proportion to the improvement in the general qualification of the country surgeon and apothecary by the Act of 1815 (seeing that no other person can now undertake the care of parish paupers), so ought the equitable payment of services to be enforced by the legislature, where these services are required for the well-being of the community.

It is the duty of heads of departments, that is, of the President and Council of the Royal College of Surgeons, and of the Master and Wardens of the chartered Society of Apothecaries, to represent to the Secretary of State for the Home Department, that, as no person can be employed who has not received a good preliminary education, and passed the examination at their respective Boards, it is incumbent upon that minister, and I believe the present minister is disposed to perform his duties frankly and honestly, to recommend to the respective Boards of Guardians of the poor, and to insist that his

recommendation be attended to, that every medical practitioner employed in their district shall be remunerated upon equitable principles, according to the extent of services required of him—not upon the present scheme of eager competition by necessitous persons or others, who, from contingent circumstances, distinct from public usefulness, might offer to perform the duty for a trifle, or even for nothing; but, that a just and reasonable payment should be made, and the same become an item of parochial charge, to be levied by a rate in the customary manner of providing for other requisites for the service of the poor.

I would recommend, that a committee of five general practitioners of high character be formed in London; that every medical attendant of every Parish Union in England and Wales be in communication with that committee; that a very correct and authenticated statement of the average number of poor, and the extent of the visiting surgeon of each district, be described; and that this committee, or a deputation from it, be directed to wait on the Secretary of State of the Home Department, with these details, and to make a respectful appeal to his sense of justice for an equitable consideration of the whole subject in Parliament. I beg, most seriously, to caution the surgeons of parochial unions against confiding their interests to political partisans, or to democratic brawlers: their case is too good and too strong, under right management, to hazard defeat by being made a subject for the display of party controversy.

I shall be happy to see this subject treated by more able hands, and remain, sir,

Your obedient servant,

ROBERT MASTERS KERRISON,
M.D. F.R.S.

12, New Burlington Street,
October 7, 1841.

P.S. October 8th.—Since the above was written I have seen Dr. Gregory's remarks on Dr. Williams's letter. I hope these may not lead to a rejoinder, for I should deprecate such discussions. The subject of my letter has reference to the unprotected condition of a meritorious class of men, who are grossly imposed upon.

I have been a Licentiate of the Royal College of Physicians in London near

twenty-one years; a Graduate of an University (Edinburgh) where the sciences are taught; but it has so happened that I have not yet had the honour of an admission to the Fellowship, although the circumstance of having been a practitioner in pharmacy has long ceased to be an objection; judging from the fact, that other gentlemen have been admitted, whose early professional life had been so devoted, of shorter standing as Licentiates, and not more distinguished for those attainments which used to be considered most acceptable to that learned body.

This omission may have been casual; it has never been a subject of remonstrance nor of reproof. I have always considered that the control of the medical profession in the metropolis of England ought to be vested in Graduates of the English Universities, with a discretionary power. It is true that the altered condition of society, by the extension of general knowledge, the establishment of collegiate institutions in London, and the scientific progress of the Members of the Apothecaries' Society, must not be disregarded by the Royal College of Physicians, if they desire to maintain that superiority in the estimation of the public which they have hitherto enjoyed.

These are general principles: I am not, of course, acquainted with the arcana of the College, nor the arguments employed in discussion. I hope that the President and senior Fellows are not unmindful of the changing state of human knowledge from *words* to *things*; but they must never cede to clamour, within or without their walls, that which is contrary to their own conviction of right.

ABUSE OF PUBLIC CHARITIES.

To the Editor of the Medical Gazette.

SIR,

CONVINCED as I am that your pages are ever open to the correction of abuses in medical charities, I shall not consider it necessary to make any apology for troubling you with the following instance, which, I regret to say, is of very frequent occurrence at all the hospitals and dispensaries in this metropolis.

Last week I was called to attend Mr. Poulter and his son, of "The Virginian Planter,"

Gibraltar Walk, Bethnal Green Road, when, after two or three days, much to my surprise, I was informed that my professional visits might be discontinued, as the distiller, Mr. Curtis, of the Mile End Road, had called in for orders, and seeing the landlord and his son indisposed, had given them an out-patient's ticket for the London Hospital, where they could consult his physician, Dr. Gordon, and get their medicines free of expense.

Now, sir, without attributing any improper motives to the worthy distiller, I do think more care should be exhibited by him, and other governors, in selecting proper objects upon which to bestow the blessings and benefits such excellent establishments are capable of affording.

I have the honour to be, sir,

Your very obedient servant,

JOSEPH HODGSON.

Spitalfields,
October 7, 1841.

TREATMENT OF INSANITY.

Diet.—Several alterations have been made in the diet table for the patients, which have been followed by beneficial effects. Knowing that too great sameness of diet is neither conducive to health nor enjoyment, the first change introduced was a more varied manner of cooking the food. At a subsequent period a greater variety of diet and a more liberal allowance of animal food and bread were granted. These changes appeared to be grateful to the patients; and it is anticipated will prove sanatory in their effects: and, indeed, to this change, along with a close attention to the warmth of the clothing, the diminution of diarrhoea is mainly attributable. Many of the patients on admission into the establishment have presented such strong features of abject want, as to lead your medical officers to the conclusion that this circumstance alone might be one of the strongest exciting causes of their malady—a conclusion that has not unfrequently been verified by a speedy restoration to health, simply by a prudent and well-regulated system of diet, without adopting any other important curative means. There is every reason to believe, that it is a false economy to withhold an abundant supply of good and substantial food from persons labouring under nervous disease, where there is always more or less exhaustion induced by excitement and restless activity.

Until the 9th of January in the present year, the bread was supplied by contract. The objection to this system being very great, a part of the out-buildings was converted into a bakehouse, and an efficient workman engaged as baker. Since the

adoption of this plan, the bread supplied to the patients has been uniformly more wholesome; and, as was anticipated, has answered every end for which it was recommended.

Occupations and Amusements.—In cases where it appears desirable to call into activity the faculties of the mind, occupations and amusements have been found valuable means in fixing the attention, and in restoring a healthy state of action. When a patient in this condition cannot be induced to undertake some useful employment, it is often possible to divert and keep alive the attention by amusements. The means employed for this purpose are various sports and games; and those which call into play both attention of mind and activity of body appear most useful—such as the games of tennis-la-grace, battledore, &c.: chess, backgammon, bagatelle, cards, &c. are provided, and to many are sources of much pleasure and amusement.

The exhibition of a magic-lantern in the winter months was very successful in affording much general enjoyment. Although these means of keeping up attention are more necessary and more useful in particular cases, yet in all there is reason to believe they have a beneficial influence. Music and dancing, so far from causing over-excitement or restlessness, seem to be followed by increased quiet and more natural repose. Most festival days are made occasions for a general assemblage of the inmates in their respective departments, who dance with much spirit to the music of one of the patients, who, dressed in gala costume, plays the violin with great perseverance, and is evidently a chief participator in the enjoyments. These things, though in themselves trifles, yet are at all times important agents in the treatment of insanity, and they become of still more importance and value in an institution where the patients are undergoing a change from a system of coercion to one of comparative freedom. Much of the excitement liable to arise in patients who have been subjected to restraint, there is reason to conclude has been averted by these means.

Library.—A liberal supply of books has been provided for the use of the patients;—the library consists of 296 volumes. They are read with apparent pleasure and interest, and a few of the patients have been encouraged to read aloud to the rest; this evidently promotes a good feeling,—is an agreeable mode of occupying time,—and conduces to the restoration of the faculties.

One daily, and several weekly newspapers are regularly supplied, as well as Chambers's Journal, and the Penny and Saturday Magazines. The object of this institution being the restoration of the mental faculties, it would seem superfluous to attempt more

than this: nevertheless, in a few cases, endeavours have been made to communicate instruction in reading and writing, and happily not without some degree of success.

Suicide.—No cases cause more anxiety to the medical officers of a lunatic asylum than those in which there is a disposition to commit suicide. A large proportion of patients admitted have evinced this propensity: and, although the attempts to effect their purpose have been both numerous and ingenious, yet we are happy to report that in no instance have they been successful, notwithstanding such patients are not subject to any species of mechanical restraint.

Keepers or Attendants.—Great difficulties arise in selecting fit and proper persons as attendants or keepers in lunatic asylums. The office is essentially a menial one; but, although the required duties partake of a routine character, something more than a mere servant is wanted. It is highly desirable that every such attendant should have had the advantage of a good and fair education; his principles and moral character should stand the test of the closest investigation; and, above all, he must be able to subject his moral courage to great forbearance. Whatever other qualities may be possessed, no one is fit to be entrusted with the care of lunatics, who cannot, even under most exasperating circumstances, command his temper. He must treat their antipathies with indulgence,—their insults with kindness,—and their violence with the greatest forbearance. He must learn to obtain an interest in the happiness and welfare of those entrusted to his charge, and his every action ought to be so regulated as to lead them to the conclusion that their welfare alone is the sole object of his consideration. Any difficulty that was at first experienced, in leading the old keepers to comprehend the necessity of, and advantage to be gained by, abandoning the system of mechanical restraint, is now happily pretty well surmounted, and the general management of the establishment is conducted with ease and facility. The appointment of superintendent keeper, or chief attendant, has been followed by all the advantages anticipated.—*Report of Lancaster Lunatic Asylum, 1841.*

ISINGLASS PLASTER.

MR. LISTON has for many years been in the habit of using, after operations and for other surgical purposes, a plaster, consisting of oiled silk covered with a coating of isinglass.

The following is the method of preparing it:—Moisten an ounce of isinglass with two ounces of water, and allow it to stand for an

hour or two until quite soft; then add three ounces and a half of rectified spirit, previously mixed with one ounce and a half of water. Plunge the vessel in a saucepan of boiling water, and the solution will be complete in a few minutes.

Having stretched the oil silk on a board, by nailing it round the edges, apply the solution of isinglass with a brush, taking care to move the brush evenly and in the same direction, making it smooth as you proceed—as in varnishing a picture. When quite hard and dry, apply another layer, in the same manner, but moving the brush in the opposite direction, in one case horizontally, in the other perpendicularly. In this manner apply four coats of the solution, or even a fifth, if the surface be not entirely smooth. The last layer should be reduced in strength by the addition of a little more water and spirit. An ounce of isinglass is sufficient for about a square yard of the plaster.

The following precautions should be observed:—the distance between the nails should not be more than an inch and a half, otherwise the oil silk will shrink in festoons, and will not remain flat. The isinglass must be well soaked in water before the spirit is added, otherwise it will not make a complete solution; and the spirit, when added, must be diluted with a portion of the water, to prevent precipitation of the isinglass. The brush must be a flat “hog tool,” such as is used for spirit varnish, and well made, otherwise the hairs will be found to come out, and this is an inconvenience, as the operation must be performed quickly while the solution is warm. The solution, when cold, should be of the consistence of blanc-mange.

Repeated experiments have shewn that gelatine does not answer the purpose as a substitute for isinglass, either alone or in any proportions. A sample is on the table, in which the first three layers were composed of a mixture of the two substances, and the last is pure isinglass; in another sample only isinglass was used, and it will be seen that the latter is much more adhesive.

The oil silk has been, in a great measure, superseded by the use of a membrane, consisting of the peritoneal covering of the *cæcum* of the ox, rubbed down and carefully polished in the manner in which the common goldbeater's skin is prepared. The following is the report of this plaster, furnished by Mr. Ancrum, Mr. Liston's assistant at the North London Hospital:—

From the extreme thinness of the plaster, the wounds can be examined without its removal. It adheres much better than plaster made with isinglass spread on silk; and in the first instance of its application becomes firmly fixed. It is difficult to fix the isinglass plaster spread on silk, unless it is very

good. From the extreme tenuity of the membrane plaster, it is equally unirritating with goldbeater's skin; and when once applied it remains so accurately adherent, that it does not require to be changed for many days. Altogether, after a good deal of experience in all the different plasters, we find it the best uniting material that has ever been produced.

In applying the isinglass to the membrane plaster, the directions already mentioned, with reference to the oil silk, may be observed, but a layer of drying oil is spread on the other side of the membrane.—*Pharmaceutical Transactions*.

ON THE PRESENCE OF SEVERAL CYSTICERCI IN A TUMOR HAVING THE APPEARANCE OF A BOIL.

By DR. FOURNIER, of Craon.

A CHILD, six years old, had a tumor of the size of a hen's egg on the superior and lateral part of the neck, which had only appeared four days. It was red, hot, painful, of a conical form, and circumscribed. On examining it with care there appeared a small hole towards the base, in the middle of which a small white point was prominent, which had an almost imperceptible motion. A very limpid aqueous fluid flowed on pressure, and a particular but feeble sensation of *fremissement* was perceived. A species of clash (collision) was distinguished by the ear; and the tumor, although red, hot, and painful, was soft and fluctuating, so that the presence of hydatids was diagnosticated. One of these worms was pressed out, and seven or eight more were removed by a small incision. They were afterwards recognized as cysticerci having a very small roundish head, supported by a contracted neck. The body was formed of imbricated rings perfectly visible to the naked eye; it was terminated by a small swelling, a kind of vesicle containing matter apparently albuminous. All performed some undulatory motions. The cure was complete on the seventh day.—*Journ. des Conn. Méd.-Chir.* and *Brit. and For. Med. Rev.*

ON THE USE OF OXALIC ACID.

By DR. NARDO.

DR. NARDO has employed this acid in inflammations of mucous membranes, and finds that its antiphlogistic action is more marked than that of any other vegetable acid, possessing the property of instantly calming the severe pains which frequently accompany inflammation of the mucous tissue. He has used it with success in acute

and chronic affections confounded under the name of angina, in different inflammations of the mouth, aphtha of new-born infants, gastritis, and gastro-enteritis.

The following is the formula he prefers :—

Solution of gum arabic, 3 oz. (94 gram.)

Oxalic acid, 1 to 2 gr. (15 to 30 cent.)

Gooseberry syrup, 1 oz. (32 gram.)

A table-spoonful (cuillerée à bouche) to be taken slowly at short intervals.—*Brit. and For. Med. Rev.*

PURIFICATION OF WATER.

MR. CLARK, professor of chemistry in Marischal College, Aberdeen, has taken out a patent for a new method of purifying water. The following is an extract from his pamphlet :—

To understand the nature of the process, it will be necessary to advert, in a general way, to a few long-known chemical properties of the familiar substance chalk ; for chalk at once forms the bulk of the chemical impurity that the process will separate from water, and is the material whence the ingredient for effecting the separation will be obtained.

In water, chalk is almost or altogether insoluble ; but it may be rendered soluble by either of two processes of a very opposite kind. When burned, as in a kiln, chalk loses weight. If dry and pure, only nine ounces will remain out of a pound of sixteen ounces. These nine ounces will be soluble in water, but they will require not less than forty gallons of water for entire solution. Burnt chalk is called caustic lime, and water holding caustic lime in solution is called lime-water. The solution thus named is perfectly clear and colourless.

The seven ounces lost by a pound of chalk on being burned, consist of carbonic acid gas.

The other mode of rendering chalk soluble in water is nearly the reverse. In the former mode, a pound of pure chalk becomes dissolved in water in consequence of losing seven ounces of carbonic acid. To dissolve in the second mode, not only must the pound of chalk not lose the seven ounces of carbonic acid that it contains, but it must combine with seven additional ounces of that acid. In such a state of combination, chalk exists in the waters of London—dissolved, invisible, and colourless, like salt in water. A pound of chalk, dissolved in 500 gallons of water by seven ounces of carbonic acid, would form a solution not sensibly different, in ordinary use, from the filtered water of the Thames, in the average state of that river. Chalk, or carbonate of lime, becomes bicarbonate of lime when it is dissolved in water by carbonic acid.

Any lime-water may be mixed with another, and any solution of bicarbonate of lime with another, without any change being produced : the clearness of the mixed solutions would be undisturbed. Not so, however, if lime-water be mixed with a solution of bicarbonate of lime : very soon a haziness appears ; this deepens into a whiteness, and the mixture soon acquires the appearance of a well-mixed whitewash. When the white matter ceases to be produced, it subsides, and in process of time leaves the water above perfectly clear. The subsided matter is nothing but chalk.

What occurs in this operation will be understood, if we suppose that one pound of chalk, after being burned to nine ounces of caustic lime, is dissolved, so as to form forty gallons of lime-water ; that another pound is dissolved by seven ounces of extra carbonic acid, so as to form 500 gallons of a solution of bicarbonate of lime ; and that the two solutions are mixed, making up together 540 gallons. The nine ounces of caustic lime from the one pound of chalk unite with the seven extra ounces of carbonic acid that hold the other pound of chalk in solution. These nine ounces of caustic lime and seven ounces of carbonic acid form sixteen ounces, that is, one pound of chalk, which, being insoluble in water, becomes visible, at the same time that the other pound of chalk, being deprived of the extra seven ounces of carbonic acid that kept it in solution, reappears. Both pounds of chalk will be found at the bottom after subsidence. The 540 gallons of water will remain above, clear and colourless, without holding in solution any sensible quantity either of caustic lime or of bicarbonate of lime.—*Pharmaceutical Transactions.*

RESEARCHES

INTO THE

REAL CONSTITUTION OF THE ATMOSPHERE.

By MM. DUMAS AND BOUSSAINGAULT.

It is generally admitted that the air is composed of a mixture of oxygen and nitrogen, and its invariableness is explained by supposing that the green parts of plants under the influence of solar light decompose all the carbonic acid developed in the respiration of animals, and the putrefaction of organized bodies. Some, however, regard the air as being not a mixture, but a chemical compound of 20 of oxygen and 80 of nitrogen, (Prout, Dobereiner, Thomson, &c.) Others, and these the majority, consider it as a mixture of 21 of oxygen and 29 of nitrogen ; and, lastly, in the opinion of some (Dalton, Babinet), the composition of the air varies according to the height in the atmosphere.

The plan employed by the authors in submitting these questions to a fresh examination is distinguished from others in that they estimate the weight instead of the measure of the gases, and thus analyze the air by weighing successively the oxygen and the nitrogen which it contains. We cannot follow them into all the details of their experiments, which, by successive corrections, were rendered more and more exact : we can only point out the results.

They fix the density of oxygen at 1.1057, and that of nitrogen at 0.972; numbers a little different from those given by other chemists. They demonstrate that the relation of the volume of the oxygen to that of the nitrogen in the air is not expressed by simple numbers ; and that the air cannot be regarded as a chemical composed of 20 volumes of oxygen and 80 of nitrogen. They admit, as a *sufficient approximation*, that the atmosphere is composed, by volume, of 20.8 of oxygen, and 79.2 of nitrogen. They presume that the mixture is uniform in all times, in every latitude, and at every height. “ If the atmospheric air,” they add, “ is a reservoir of oxygen for the use of animals, and a reservoir of carbonic acid for the use of plants, it is so considerable a store that the consumption, supposing it not to be compensated, would remain almost insensible after a long series of years.” They have calculated that supposing each man to consume a kilogramme of oxygen per day, and that the oxygen disengaged by plants did no more than compensate for the other causes of its absorption, the whole human race, and three times their number, would not consume in a century the eight-thousandth part of the oxygen which nature has placed in the respirable air.—*L'Examineur Medical*, Aout 20, 1841.

CHAIR OF
MEDICAL JURISPRUDENCE IN THE
UNIVERSITY OF GLASGOW.

DIED at Glasgow, on the 9th inst., Robert Cowan, Esq. M.D. Regius Professor of Medical Jurisprudence in the University of Glasgow.

The patronage of the chair belongs to the Crown, but will probably be exercised by the Duke of Montrose, Chancellor of the University. It is to be hoped, for the sake of the University and his own credit, that his Grace, while he will naturally make choice of a gentleman of his own party in politics, will reject with scorn any attempt which may be made to put him in leading strings on the occasion, and that he will appoint no one who is not thoroughly acquainted with those branches of sciences, and especially chemistry, of which medical jurisprudence is merely an application.

ROYAL COLLEGE OF SURGEONS.

LIST OF GENTLEMEN ADMITTED MEMBERS.

Friday, October 1, 1841.

E. Colchester.—E. Metcalfe.—C. Horton.—F. R. Stradling.—J. A. Stamford.—J. T. N. Lipscomb.—E. D'Auvergne.—J. Lord.—W. G. Goldin.—C. H. Morrison.—Edward Seppings.

TABLE OF MORTALITY FOR THE
METROPOLIS.

Shewing the Number of Deaths from all Causes registered in the Week, ending Saturday, the 2d Oct. 1841.

Small Pox	8
Measles	24
Scarlatina	19
Hooping Cough	43
Croup	5
Thrush	9
Diarrhœa	26
Dysentery	2
Cholera	1
Influenza.....	0
Typhus	17
Erysipelas	3
Syphilis	0
Hydrophobia.....	0
Diseases of the Brain, Nerves, and Senses ..	170
Diseases of the Lungs, and other Organs of Respiration.....	237
Diseases of the Heart and Blood-vessels	14
Diseases of the Stomach, Liver, and other Organs of Digestion	90
Diseases of the Kidneys, &c.....	4
Childbed	2
Ovarian Dropsy	1
Diseases of Uterus, &c.	4
Rheumatism	2
Diseases of Joints, &c.	0
Ulcer	0
Fistula	0
Diseases of Skin, &c	0
Diseases of Uncertain Seat	112
Old Age or Natural Decay.....	49
Deaths by Violence, Privation, or Intemperance	32
Causes not specified	9
Deaths from all Causes	883

METEOROLOGICAL JOURNAL.

September.	THERMOMETER.		BAROMETER.	
Wednesday 6	from 44 to 56		29.80 to 29.85	
Thursday . 7	37.5 56		28.92 29.01	
Friday . . 8	44 55		29.07 29.40	
Saturday . 9	43 54		29.62 29.77	
Sunday . . 10	41 57		29.77 29.57	
Monday . . 11	48 57		29.52 29.47	
Tuesday . 12	44 53		29.09 29.46	

Wind S.W. on the 6th and following day; W. and N.W. on the 8th; W. on the 9th; S.W. on the 10th; S.W. on the 11th; S.E. and S.S.W. on the 12th.

On the 6th, morning foggy, sunshine at times; afternoon overcast, showers at times; evening quite clear. The 7th, morning and evening clear, otherwise cloudy, with rain. The 8th, generally cloudy, raining frequently. The 9th, morning cloudy, with rain, otherwise generally clear. The 10th, generally overcast; frequent and heavy showers of rain during the afternoon and evening. The 11th, afternoon overcast, rain at times; otherwise clear. The 12th, morning cloudy; afternoon overcast, showers of rain between 12 and 5 P.M.; evening clear.

Rain fallen, 93. of an inch.

WILSON & OGILVY, 57, Skinner Street, London.

THE LONDON MEDICAL GAZETTE,

BEING A
WEEKLY JOURNAL

OF
Medicine and the Collateral Sciences.

FRIDAY, OCTOBER 22, 1841.

ANALYSIS

OF

M. LUGOL'S CLINICAL LECTURES,

Delivered at the Hôpital St. Louis.

REPORTED BY

JAMES H. BENNET AND ERNEST GUIET,
House Surgeons to the above Hospital.

Tubercles, their mode of growth not by juxta-position but by epigenesis. Intestinal worms and lice common in scrofulous children—two remarkable instances of the latter. Tubercles at first fluid. Tubercular suppuration. Inutility of topical remedies. Tubercular ulceration. Characters of tubercular pus. Peculiarities of the cicatrization. Peculiarities of pulmonary tuberculization. Pathological transformation of tubercles. Scirrhus scrofula.

SOME pathologists, we have said, look upon tubercles as an alteration or product of secretion. In their eyes tubercles are inorganic bodies, deposited in the tissues, and formed by the gradual deposition or incrustation of secreted matter. The tubercle thus formed is developed, according to this theory, by the continued addition of particles of tubercular matter secreted in the same manner; that is, it increases by juxta-position. Judging *a priori*, and without consulting nature, nothing appears more simple than this mode of explaining the formation of tubercles; but when we come to analyze it, and to test it by the data furnished by observation, we soon find that it scarcely admits of discussion. In all bodies which increase by juxta-position we necessarily find on examination the traces of the successive aggregation of the molecules which enter into their formation. Thus, for instance, if we examine an aneurismal tumor of the popliteal artery, we find, on making a section,

the successive layers by which it is formed; this we also find to be the case with certain calculi found in the bladder, or in other organs. On examining the structure of tubercles, on the contrary, we find the tubercular matter perfectly homogeneous, everywhere presenting the same structure—the same appearance. In no instance do we find the tubercular matter deposited in successive layers, as would infallibly be the case were it merely an inorganic substance deposited in the centre of our tissues, and increasing by juxta-position. Where, on the other hand, are we to place the seat of this secretion? Tubercles exist everywhere in every tissue; if, therefore, we look upon them as secreted, we must admit that a substance always identical is secreted by the most dissimilar tissues whenever the general predisposition which appears to preside over the manifestation of tubercular structure exists.

It is evident, from what precedes, that these theories are perfectly untenable, and we thus arrive, by the process of exclusion, to the belief that *epigenesis* is the only principle which can satisfactorily account for tuberculization. The formation of tubercles by epigenesis is implicitly implied by the unity of their contour and density, and by the facts which have previously been mentioned. It is, indeed, on this account that we insist on the details which have reference to the form, colour, and density of tubercles, as also on their organization and means of nutrition. Tuberculization is a parasitical function which grafts itself with deplorable facility on all the other functions, which it at the same time deteriorates. It is not an isolated phenomenon. It is the most frequent and most terrible manifestation of scrofula—the undefinable Proteus of which we are now studying one of the forms.

Epigenesis is the most rational theory by which we can account for the generation of tubercles; nor is tuberculization the only example of epigenesis which the economy

presents. Hydatids, intestinal worms, and lice, are now universally considered to be generated spontaneously.

Lice and intestinal worms are very common in scrofulous children; and it is by no means impossible that there may be some unknown analogy between them. The number and size of these insects is not always the same on scrofulous children, although they may be in the same hygienic conditions. In the spring, and when any exacerbation occurs in the sufferings of the little patients, they increase rapidly in size and in number. Scrofulous children are also often attacked with permanent verminous affections, and with mucous fevers which vary in intensity, presenting aggravations and remissions, as is the case with the scrofulous affections by which they are afflicted.

Who has not seen instances of that form of phthisis to which the denomination of "galloping decline" has been so expressively given, and which consists in the rapid formation of tubercles which invade nearly the entire pulmonary tissue? Intestinal worms or lice are sometimes generated with the same rapidity. M. Lugol mentions several striking cases of the rapid generation of lice on scrofulous children, among which we will select that of two sisters of the respective ages of four and six, who, during their convalescence from an eruptive fever, were both suddenly attacked by such an immense number of lice that their face and head were covered by them, and that without their having had any communication with other children which could account for the presence of the vermin, and under the most favourable hygienic circumstances. One of them has since died from phthisis, and the other is threatened with the same fate. The following case is still more interesting. M. Lugol was called in by a physician some few years ago to see a young girl, born of scrofulous parents, who, until she was four years old, was nearly devoured by lice: at that age they suddenly disappeared. Until the age of twelve her health was tolerable; but at that period an enormous tubercular swelling manifested itself on the left side of the neck, and shortly disappeared under the influence of emollient applications. Three months afterwards the scalp became the seat of an abundant serous eczematous discharge, and the following day a deluge of lice covered the head. The hair of the patient was cut in order to get rid of the vermin. Immediately afterwards the feet became so swollen as to prevent her walking, and the left side of the neck again became the seat of a tubercular tumor. Since this period the tubercular tumor has followed the usual march of such tumors, and the lice have not returned.

March of tubercles.—Already, in speak-

ing of the formation of tubercles, we have stated that the granulations considered by Boyle and Laennec to be the first stage of tubercular formation, are not in reality the first period of existence of these morbid productions. Tubercles are subject to the general law in accordance with which organized bodies have to pass by the liquid state before they become solid. Gemers was the first to give publicity to the opinion that tubercles were merely, at first, small vesicles, of extreme tenuity, filled with an aqueous fluid. Baron subsequently developed these ideas, and, as it were, appropriated them. This theory has been strengthened by the observations of M. Dupuy, Professor of the Veterinary School at Alfort, whose researches were made on horses. M. Dupuy looks upon these vesicles as hydatids, which, according to his views, constitute the first period of tubercular existence. M. Lugol thinks that the opinions of these authors respecting the primitive liquidity of tubercles are perfectly rational, but does not take upon himself to decide whether these vesicles are hydatids or not, the cases in which he has met with tubercles coinciding with hydatids not being sufficiently numerous to authorize his coming to any conclusion with reference to the relations which exist between them.

Let us now study the progress of tubercles when they have arrived at a size which enables us to appreciate them; that is, at the size which they present when termed granulations by most authors. At this period of their existence pathologists describe them as hard ovoid bodies, the density of which is greatest in the centre, and gradually diminishes as we approach the circumference. When they soften, the softening, according to Boyle and Laennec, also proceeds from the centre to the circumference.

These views, however, are not founded on a strict examination of the morbid production which we are now studying. Were they correct, we should be able at once to convince ourselves that such is the case by examining a number of tubercles at different periods of their development. We should find some presenting the central hardness radiating towards the circumference, and others beginning to soften in a like manner; whereas we always find, on the contrary, tubercular matter perfectly homogeneous, at whatever stage of its existence it may have arrived. Should, consequently, softening have commenced, that softening is equal throughout the tubercle. We must not, at the same time, forget that tubercular tumors are formed by the aggregation of tubercles primitively isolated; that, under some circumstances, the centre of the tubercle is not the centre of a tubercular tumor; and that, owing to this reason, one part of the tumor

may be softened whilst the other remains indurated. The softening of tubercles forms an important feature in the history of tubercular scrofula, as it immediately precedes tubercular suppuration, which we will now examine.

Tubercular suppuration.—Suppuration is, generally speaking, one of the periods through which tubercles have to pass in their progressive development. We say generally speaking; for all tubercles are not inevitably destined to suppurate, many undergoing the process of absorption or resolution. Tubercular suppuration is spontaneous, and takes place by an internal process as imperceptible as that of nutrition, or of generation itself. Perfectly local, giving rise to no external or general phenomena, it may be compared to a normal function.

We will commence the study of the period of suppuration by examining it in subcutaneous tubercles. We shall then be better able to understand the suppuration of internal tubercles.

The fact which at first excites the greatest surprise, is the insufficiency—the inutility even, of topical remedies applied to the tubercular tumors. Poultices, lecches, &c. are powerless to arrest the morbid progress, over which they do not appear to exercise the slightest influence. Indeed, they rather appear to accelerate the progress of suppuration, as may be daily seen in the scrofulous wards of St. Louis, where it is found that tubercular tumors increase more rapidly in size, and suppurate sooner, when these agents are resorted to than when they are left entirely to nature. M. Lugol thinks that the moisture and heat of poultices increase the nutrition of the tubercle.

We have already stated that in tubercular tumors one only of the tubercles which enter into their formation may soften. This remark is equally applicable to the suppuration of single tubercles, the period of softening being merely antecedent to that of suppuration. In these cases a small portion of the tubercular mass appears to have suppurated, whilst the remainder is still in the crude state.

The presence of pus in tubercular abscesses is not always as easy to ascertain as one would at first imagine. In some instances, although the pus is really formed, no fluctuation is apparent, the fluid being too deeply situated to give rise to this symptom; in others we sometimes think we have ascertained the existence of fluctuation, when not an atom of pus has been formed. M. Lugol has seen this error committed by the most skilful practitioners—a fact that may be accounted for by the peculiar elasticity which tubercular matter presents—

an elasticity which may easily be mistaken for fluctuation.

An important feature in the history of tubercular suppuration is, that sometimes the fluctuation which has been manifest for some days gradually disappears. Generally speaking, it reappears in the course of a few days; but in some rare cases the fluctuation does not again shew itself. It is this circumstance which renders it advisable to give an issue to the tubercular pus as soon as we become certain of its presence.

Tubercular pus.—The pus of tubercular abscesses has a peculiar characteristic odour, which it is sufficient to have once smelt to be able always to recognise. This odour is nauseous, penetrating, and leaves behind it a disagreeable impression which may easily be recalled to mind, even when the olfactory membrane is no longer under its influence. The pus is remarkably fluid, and often contains flakes of crude tubercular matter, when it may be compared to whey milk containing some portions of caseum.

Tubercular ulcers.—Whatever is the process by which a scrofulous abscess has been evacuated, whether by the bistoury or by nature, the pus left to itself having gradually worked its way to the exterior, the disease is far from being cured. We do not see, for instance, as in a phlegmonous abscess, inflammation supervene when the pus has been evacuated, cause the adhesion of the parietes of the abscess, and thus put an end to the lesions which the purulent collection has occasioned. The march of scrofulous abscesses is far from being so simple and favourable. The opening which has been made, or which nature has made, in the skin persists, and becomes transformed into an ulceration, which is kept up by the general cause which presided at the formation of the first tubercles, if that cause still exists, as also by the tubercular pus which continues to be generated under the same influence.

Scrofulous ulcers at first assume a circular form, and gradually increase in size. At the bottom of the solution of continuity, we perceive a layer of greyish granular matter, which falls into an unhealthy state as it is produced.

The margin of the ulcer is elevated, of a red, violet hue, bathed with pus, and its depth varies from half a line to a line and a half. Granulations soon begin to rise from the bottom of the ulceration; these granulations are livid, unhealthy, and give rise to sanious funguses, the basis of which is circumscribed by the ulcerated tegumentary membrane.

The progress of ulceration is generally slow. Sometimes, nevertheless, there is, if we may so express ourselves, an increase of activity in the proximate cause which

presides over these phenomena, and when this is the case, ulceration proceeds with frightful energy.

In nearly all cases, however, the disorganization of the teguments gradually extends, and at last gives rise to scrofulous sores, the hideous aspect of which characterizes them.

Do the tubercular masses disappear when they suppurate? Certainly not, as long as the system is under the influence of the general cause which has presided over their formation. In most cases the tubercular tumors do not even decrease in size, but suppurate without any apparent modification apparently taking place in their volume; indeed, we frequently see them gradually increasing, although throwing out daily an enormous quantity of tubercular matter. It is only when the general malady, of which the generation of tubercles is merely a symptom, has been subdued, when the state of the economy has been deeply modified by a rational and properly directed treatment, that we see the tubercles or tubercular tumors decrease in volume, the suppuration diminish, and finally disappear.

The quantity of pus furnished by a tubercular abscess is not in relation to the size of the tubercle or tubercular mass from which it proceeds. Thus, we find enormous tubercular abscesses discharging but a very slight quantity of pus, or even not suppurating at all, whereas very small ones will often give rise to a most abundant suppuration.

Tubercular suppuration is continuous, but it often presents remissions and recrudescences; a fact with which it is important we should be acquainted, as these remissions and recrudescences form an important feature in all scrofulous affections. In spring and in summer the suppuration becomes much more abundant, whilst it decreases during the autumn and winter months.

Sometimes a cervical tubercle will soften, suppurate, and entirely empty itself. When this is the case, M. Lugol compares it to a vomica of the lungs. If a liquid of an irritating nature is then injected, sometimes, even when the cyst is left to nature, the inflammation which supervenes may be sufficient to cause adhesion of the parietes of the cyst, and the tubercular abscess is then cured. Although, however, isolated tubercles, thrown as it were in a corner of the organization, may be, and indeed often are cured, by this process, tubercular masses cannot be looked upon as susceptible of a similar cure. Tubercular masses are formed, as we have stated, by the aggregation of a number of tubercles, and as the suppuration of tubercular structure is regulated by no fixed law, many of these tubercles never suppurate, whilst among the others some suppurate at one period and some at ano-

ther. The tubercles which enter into the formation of the mass being thus entirely independent of one another, even if we succeed in obliterating a tubercular cyst which has evacuated its contents, we have but very slightly modified the state of the tumor to which it belongs. We must always keep in mind, that even when we are successful in curing any local manifestation of scrofula, unless we can get rid of the general disease under the influence of which the local malady appeared, we have done little towards restoring the patient to health.

The pus which is furnished by tubercular suppuration never gives rise to concretions or crusts; those which we observe in the vicinity of scrofulous ulcers are to be attributed to cellular or cutaneous suppuration. When these crusts are accidentally detached, a slight degree of hæmorrhage often occurs, which renders the aspect of the tubercular ulceration still more hideous.

The formation of concretions on a tubercular sore is rather a favourable symptom than otherwise. When they appear, we generally find that the suppuration diminishes, that the granulations become more healthy, and that the tubercle itself appears to melt away, the suppuration carrying off the tubercular matter which remained. In such cases it seems to me as if the generation of tubercles was arrested. This, however, is only observed when the economy has been deeply modified by appropriate hygienic and therapeutic measures.

Generally speaking, tubercular suppuration becomes less abundant as cicatrization advances. Sometimes, nevertheless, although the cicatrix appears intact, the suppuration is abundant, and that without its being ruptured; the pus appearing to filter, as it were, through the tissue of the cicatrix. This fact, although difficult to explain, is not the less certain.

The cicatrices themselves are by no means permanent; they often break, and the tubercles again suppurate. Cases of this nature are merely examples of the remissions and recrudescences which we have stated to occur so frequently in scrofulous affections.

Tubercular ulcers are always accompanied by more or less extreme suppuration of the surrounding cellular tissue. Sometimes the ulceration of the skin proceeds more rapidly than that of the tubercle; occasionally, indeed, the skin becomes ulcerated while the tubercles are still in a crude state.

However the cicatrization may have taken place, the cicatrice always presents a livid copper tinge, which never entirely disappears, and which impresses on the unfortunate victims of scrofula an indelible stigma, which does not escape the observation of an experienced observer.

The suppuration of internal tubercles takes

place exactly in the same manner as that of external tubercles, with the exception that in the lungs their development is attended with more disastrous consequences. The gravity of pulmonary tubercles is perhaps less to be attributed to the importance of the organ which is attacked than to the prodigious facility with which they develop themselves. At the onset the suppuration of pulmonary tubercles is as latent, as obscure, as that of the tubercles which we have just studied; it does not give rise to any symptom which can with certainty be attributed to its existence. But this state of things is not of long duration in an organ the functions of which occupy so prominent a part in the economy. When the suppuration is abundant the entire system sympathizes with its sufferings. Slow fever comes on, without any notable increase in the strength of the pulse. The face becomes remarkably pale, with the exception of the cheeks, which present a vivid tint; the features and the system generally becomes extremely emaciated without any apparent cause for the rapid change; indeed, the gradual emaciation of patients who present scrofulous antecedents and coincidences is a most valuable symptom for the diagnosis of pulmonary tubercles during the first stage of the disease.

Pulmonary tubercular suppuration occasions cough, dyspnœa, the absence of respiration, asphyxia, absorption of the lungs, and all the phenomena of colliquative fever, which we shall not even attempt to describe.

In case of pulmonary phthisis it is too frequently the custom to attribute all the appreciable functional lesions to the disease of the lungs. We must not, however, forget that in these cases, in which the scrofulous diathesis appears to exhaust all its energy, we nearly always find tubercles in the mesentery and in various other regions. The suppuration of these tubercles, by increasing the extent of the suppurating surface, contributes, no doubt, to give rise to the general symptoms to which we have alluded.

The development of pulmonary tubercles is subject to the remissions and recrudescences which we have noticed in that of external tubercles. Thus we often see a fresh generation of tubercles take place in spring in the lungs of a phthisical patient. Indeed, the successive generation of tubercles in the lungs is a fact which is proved by the examination of those who daily fall victims to the disease, and in whom we nearly always find tubercles presenting every degree of development.

The comparison between internal and subcutaneous tubercles might be carried still further, but enough has been said to shew that they are in every respect identical.

Pathological transformations of tubercles.—Like all other tissues of the economy, tubercular structure may undergo numerous transformations.

Tubercles not unfrequently undergo the gelatinous transformation, and when this is the case the gelatinous substance may present numerous modifications. A very remarkable case of gelatinous transformation was observed by one of us (M. Guet) during the present year at the hospital St. Louis, on a patient who died in M. Lugol's wards. The patient, a man thirty-five years of age, had entered the hospital to be treated for porrigo favosa which existed on one of his legs. He was then labouring under confirmed phthisis, which, in the course of a few months, terminated fatally. On examination after death, the left lung was found to have been entirely absorbed and converted into a gelatinous mass, which might be compared to animal jelly, and which presented great diversity of colourization throughout its extent; here and there, the gelatinous mass presented several small tubercular tumors. The right lung contained a large cavern in the superior lobe, and numerous crude tubercles disseminated throughout the rest of its tissue.

Tubercles may undergo the fatty degeneration. Atheromatous tumors are occasionally met with which have evidently a scrofulous origin. It is not lightly, says M. Lugol, that he has adopted this opinion, the apparent strangeness of which may at first create surprise. He has often found in the midst of ordinary tumors, in the thoracic cavity for instance, fatty atheromatous productions, the origin of which can, he asserts, only be ascribed to scrofula. M. Lugol looks upon the tubercles situated in the vicinity of these fatty tumors as the probable element of other atheromatous formations.

Tubercles may contain cretaceous substances. M. Lugol has attended a lady who during four years continually expectorated cretaceous matter. The family alone of this lady would have presented to the student every form of scrofula.

The morbid productions which we are studying often undergo the cartilaginous or osseous transformation. M. Lugol found on a patient who had scirrhus tubercles in every organ, a large tubercle the size of a walnut nearly ossified. M. Lugol also mentions another case which he looks upon as an instance of osseous transformation of tubercular substance. The patient, a man thirty years of age, had long been affected with scrofula. At his death, which was caused by pulmonary phthisis, he presented on the left side of the neck an enormous tumor, weighing six pounds and a half. When cut into, it presented, says M. Lugol, a texture which may be compared to that of a raddish. In its interior it contained a

bone from four to five inches in length, and one inch in breadth. The superior part of this tumor had twice been the seat of very serious hæmorrhage, and yet after death the most minute researches failed in demonstrating the presence of any vessels.

From what has been stated, it is evident that tubercles may undergo any species of transformation. There are none, however, so interesting as the scrofulous and encephaloid forms of degeneration.

Scirrhus scrofula. — In examining patients who have fallen victims to the progress of scrofulous affections, it is by no means unfrequent to find scirrhus tubercles, the presence of which is attributed by most pathologists to coincidence. According to M. Lugol, on the contrary, they are merely scrofulous tubercles that have undergone the scirrhus degeneration; degeneration which in his opinion would, in all probability, have extended to other surrounding tubercles, had the life of the patient been prolonged.

The same remark may be made with regard to the encephaloid degeneration. Cerebriform matter is often seen imprisoned, as it were, in the midst of tubercular substance; and its formation is to be attributed to the degeneration of the former substance. This production of encephaloid matter is generally partial; it may, however, be general; there may exist, if we can so express it, a general encephaloid tuberculization.

On examining a scrofulous subject after death, in 1838, M. Lugol found hundreds of cerebriform tubercles disseminated throughout the economy. M. Lugol having presented the case to the Academy of Sciences, then remarked, that the cerebriform tubercles appeared to be nothing else but scrofulous tubercles which had undergone the encephaloid degeneration, but he dared not definitely give the case as exemplifying such a degeneration. The celebrated Portal, however, who happened to be present, stated that in his opinion M. Lugol's first idea was the correct one, and that the case evidently proved the possibility of the pathological transformation of tubercular into encephaloid structure. Since this case came under my notice, M. Lugol has seen many similar ones which have all tended to confirm the views of Portal on this subject.

The scrofulous origin of many cancerous affections, if not of cancer itself, considered generally, is rendered evident by the state of health of children born from women who are attacked with cancer of the breast; many of these children are scrofulous long before the mother has herself manifested any symptoms of cancer.

It is also by no means unfrequent to see women who have been scrofulous in their infancy and in their youth, when they arrive at the critical period of life, attacked with

cancerous affections of the breast, of the uterus, &c.; affections which M. Lugol looks upon as scrofulous maladies modified by the age of the patient. In cases of this kind, it is principally by a strict examination of the family temperament, of the health of the ascending parents, of that of the brothers and sisters, that we are able to arrive at a direct diagnosis. Local causes have evidently very little to do with the pathology of these affections.

In the second part of this analysis we shall examine the nature of the causes under the influence of which scrofula manifests itself.

SUBSTANCE OF A CLINICAL LECTURE
ON
CANCEROUS DISEASES OF THE
FACE,

Given at St. George's Hospital,

BY MR. CÆSAR HAWKINS.

1. *Common Cancer.* 2. *Fungous Cancer.*
3. *Cancerous Ulceration.*
a, Of the Cheek. b, Of the Eyelids. c, Of the Forehead.

1. You are tolerably familiar with the usual course and appearance of cancer of the skin of the lip and cheeks, and have seen several cases of the disease lately, in different stages and degrees of severity; and there are before you several preparations and plates of this variety of cancer. You have seen among these recent cases that it may often contaminate the absorbent glands below the jaw and in the neck, and that it may also be speedily fatal by local irritation; it also happens, though it is a rare occurrence, that you may find evidence in some cases of the whole system being in a diseased state, in the fact of there existing some similar formations in other parts of the body. The consequence of such a degree of malignancy is this, that a successful operation is seldom to be anticipated; that the disease is reproduced in the cicatrix, or near it, as you have had opportunity of seeing, or that the glands are affected, although the cicatrix remains sound; and the patient is thus carried off in a few years in a considerable number of cases.

2. There is a second form of cancer, which is in some measure intermediate between ordinary cancer and fungus hæmatodes in its character and appearance, which are shewn you in these plates and drawings. It appears not to be possessed of a high degree of malignancy, seldom affecting the glands, or appearing elsewhere in the body. In this plate and preparation the disease is shown as it presented itself in a patient of

Mr. Babington's, in whom the operation was successful for at least a good number of years. In this case, on the contrary, the operation failed, because a little portion of the tumor ran perpendicularly downwards, and was left: it might easily have been removed after its reappearance, with a little portion of the malar bone, perhaps; but the patient, who was far advanced in life, would not submit to it, and fell a victim to the disease in somewhat more than two years from its commencement. You may see the final result of its ravages, in this case, in this extensive ulcer, which has destroyed a good deal of the cheek, exposing the jaw-bone, and making an aperture in the orbit, communicating with this large abscess of one hemisphere of the cerebrum, which nevertheless left the patient's faculties entire to the last. A tumor of firm but somewhat hæmatoid texture may be seen in the liver, and some glands were affected in the neck, and there happened to be this large serous cyst of the kidney, not malignant, but of the character which occupied our attention not very long ago. In this plate and preparation of another case, you see the course of the disease when left entirely to itself, which was also fatal in about two years from its origin in the skin of the nose; and you may perceive all the sphænoid and æthmoid bones and their cells filled with the morbid structure. In the cast before you of a fourth case, the disease began about a year and a half beforehand, and was fatal in a few months after the cast was taken.

It thus appears that this fungous form of cancer is rapid in its progress, and forms a large quantity of morbid substance, compared with common cancer, and the fungus of the ulcer is very extensive in comparison with its base. Still I believe it is sufficiently local to offer a very fair chance of success from operation; considerably more so, probably, than common cancer. You have not seen any instance of this variety, but you may read a description of it, which I published, in the 21st volume of the *Medico-Chirurgical Transactions*.

3. The third variety of cancer of the face may be called the cancerous ulcer, or phagedenic cancer, to distinguish it from the fungous variety, and from common cancer of the skin of this part of the body. You have a good example of the disease in a man of the name of Riley, now in Cholmondeley ward, under my care. I had this plate taken when he was admitted into the hospital, at which time the ulcer was nearly double the size of that now existing. How then can it be cancerous, you may feel inclined to ask, if it can be healed? In truth there is a singular condition of parts, which often prevents the real nature of the case from being recognised in practice. Thus it has

been described by Dr. Jacob, in the *Dublin Hospital Reports*, under the name of a "peculiar ulcer of the face;" so it is also by Mr. Middlemore, who was kind enough to send me his work on the eyes, which I had not seen when my own paper, which I have alluded to, was published. By others, again, it is described as cancer, without any clause of distinction or modification, though this is of great importance for the understanding of its nature. By some, again, it is confounded, in consequence of the modification in question, with lupus, or is called lupoid tubercle, or *noli me tangere*, though essentially different.

In truth, however, there is always a new structure in this disease, which is not, therefore, a mere form of ulceration; and this structure is of the nature of scirrhus, or cancer, as you had an opportunity of seeing in a woman recently operated on by Mr. Babington.

The term cancerous ulcer seems, therefore, to be appropriate, since it recognises the essential nature of the disease, and implies that we must not lose time in trying to cure the ulcer, whenever its entire removal or destruction is practicable; but it signifies also that it is not common cancer, and need not frighten our patient or ourselves by exciting an expectation of a rapidly advancing disease with intense suffering, and an almost inevitably fatal result; characters which belong to most varieties of cancer wherever it may be situated. It differs, in fact, from the ordinary progress of cancer by its great slowness, so that I have repeatedly seen it, after it had existed twenty or thirty years, without having materially affected the health: it is generally characterized by the little pain attending it, though occasionally this is severe; it has very little disposition to hemorrhage, or to the formation of fungus of any size. The discharge has none of the foetor which that of ordinary cancer possesses; neither does it affect the glands or the rest of the body, as far as I have seen it, being throughout a local disease. I do not mean to assert that it never causes contamination of the textures, for this is of course possible under every form of scirrhus, but only that such an occurrence is so rare as to affect materially one's prognosis and practice, and has gained for the disease the epithet semi-malignant. This form of cancerous disease affects particularly three situations in the face, but yet its peculiarity does not arise from its locality, since you may have the ordinary form of cancer in exactly the same places: for example, this cast is one of common cancer on the side of the nose, which is one of the places in which the cancerous ulcer often makes its appearance; but there was, in this case, the same fungus and erosion of vessels, the same

welted and everted margin, and the same pain and cancerous deterioration of the system (as the countenance well shews you), which ordinary cancer presents you with in any other part of the body.

So, again, the ravages committed by the fungous cancer, in the eyelids or nose, in the patients from whom these casts and drawings and preparations were taken, are very different from the appearance which a cancerous ulcer such as Riley's presents, although as much structure may be destroyed in one case as in the other.

It appears as if the peculiar chronic nature of the cancerous ulcer was established from its commencement, and possibly the texture in which it originates may have something to do with it; for it would seem to be confined nearly to the outer surface of the cutis, or rather to the rete mucosum and external layer of the cutis; while ordinary cancer usually affects much more of this structure, or pervades its whole thickness, or is formed in a tubercle below the skin. This will account in some measure for the change which some parts of the cancerous ulcer occasionally undergo; giving such parts, if the morbid structure goes deeper than usual, a great resemblance to the common form of cancer, or giving them an appearance in some measure intermediate between the two varieties. A gentleman, for instance, was recommended to consult me, who had had the cancerous ulcer for twenty-five years, at the end of which time the whole side of the face and forehead, the eyelids, and nose, and ear, had become involved in superficial ulceration at one period or other; but in one part on the cheek a tumor of the size of an egg had grown, and had been removed by the knife five years before I saw him, and had again formed, and had been excised a year afterwards; after which time this portion of the surface, like the rest, presented the usual appearance of the superficial ulcer. Notwithstanding its extent, and the length of time it had lasted, the disease had not in the least affected the general health, and only some parts were painful, and that chiefly from exposure to the air in dressing. In our patient, Riley, exposure is also very painful, so much so that he could not long submit to it, when the drawing was being taken. The superficial situation of the new structure, in cases of cancerous ulcer, is perhaps the reason why it generally forms a thin flat tumor in its early stage, more like a mole in shape than like the tubercle of the common cancer, or of the fungous cancer, in both of which the new structure, whether in the cutis or below it, is commonly rounded and elevated, instead of being flattened in shape: it almost appears as if the superficial cancerous ulcer could not easily spread to the deeper layers

of the cutis, and expanded therefore in a thin flat figure on its surface. At the same time the form is not essential, since the ordinary cancer does not always present a distinct tubercular figure. If, then, the shape in which the several forms of cancer commence is generally different, while the locality is the same, it may be not unfair to regard the form of cancer as in some measure dependent on this origin, according as it is on the surface, or on the deeper part of the cutis, or in the subcutaneous tissue, in the three cases respectively; and the general family resemblance is at the same time kept up by the exceptions, in which the specific difference is in some measure lost, when the disease has spread from the surface to the subjacent texture. I do not mean, however, that this is the sole reason, but it seems more likely that there is also, in different cases, an original variety in the action of the capillary vessels, or in the condition of the system, or in both respects, which influences the progress of the disease; just as there are great differences in the nature of the malignant materials in different parts of the same tumor, or in different tumors in the same body.

On the whole, there is no doubt that the superficial cancerous ulcer is much milder than the others, since so many cases of it are called semimalignant, peculiar ulcer, lupoid tubercle, and so on, as I before told you was the case by different persons who have described it.

a. One situation in which the cancerous ulcer not unfrequently begins, is in the angle between the nose and the cheek, where it may be seen in this plate in an early stage, or on the prominence of the malar bone. In one part in this drawing it was on the point of ulcerating, and the flat brown or dark-coloured elevation had become somewhat rough, and slightly irregular, with a little cracking of the surface, and oozing of thin watery discharge; and the appearance at this period has led Dr. Warren to give the whole disease the name of *lepoides*, from the supposed resemblance of the little tumor to the bark of a tree. In the case from which this plate was taken, the ulcer was even now, you observe, less than a shilling in size, though it had been ulcerated four years: you may see the flat, shining, and dark-coloured surface with some blood-vessels running across it, but wholly destitute of granulations; you may perceive, also, the elevated and irregular appearance of the cancerous growth on several parts of the skin around the triangular figure which the ulcer had assumed: this new structure is divided, as it were, into several granules, or bead-like bodies, as they have been called, and the margin is often thus divided, instead of having one uniformly increasing deposit of

new matter everywhere. Where the ulcer is as slow in its progress as it was in this case, you may often see a little of the brownish deposit like the original growth below it, but in other cases this base is destroyed by ulceration, and the ulcerated surface may even cicatrize, as in this plate, the morbid structure being only deposited around the circumference; or, again, as you may see in Riley, after a cicatrix has been obtained of apparently sound texture, a little tubercle or two make their appearance, and then ulcerate afresh, separately from each other, and from the part of the original ulcer, which has not skinned over. The proportion of the new matter varies; that is to say, the granular margin varies in thickness from time to time, and sometimes almost disappears under treatment, or spontaneously. This happened in the woman from whom this drawing was taken, in consequence of an attack of erysipelas, and the ulcer itself quite healed for a time, but then the elevated edge increased again, and ulcerated afresh. If, then, the whole be destroyed, the disease may remain permanently well, but the least bit remaining will cause the ulceration to return; it is not mere thickening, in fact, but cancerous structure, white and creamy, and with hard bands of cellular texture pervading it; though on a small scale indeed, since the granules may not be larger than a good sized pin's head. All these facts you have lately had an opportunity of seeing in a patient of Mr. Babington's, in whom the ulcer was removed by excision, and in one of Mr. Tatum's, in whom caustic was employed, as well as in my own patient, Riley.

Mr. Tatum's case, which you have lately seen, presented the disease on the cheeks, and is remarkable for the number of separate points in which the ulcers have appeared, and he has been kind enough to give me these details. It was in a woman, Mary Price, 50 years of age, who was first admitted into the hospital in March 1840, with a hard welted tumor on each cheek, surmounted by a scaly incrustation, concealing an ulcerated surface. The largest, on the right side, is of the size of a sixpence, and is of six years' duration; the smaller one, on the left cheek, is of only twelve months' standing. They occasion little pain or inconvenience, but slowly increase in size, and the glands in the neighbourhood are unaffected. She described the tumors as beginning like small pimples, which, on their heads being scratched off, discharged a thin fluid, which soon concreted into a scab, and slowly enlarged. The ulcers were destroyed by chloride of zinc, the sloughs separating on the third day, and leaving healthy surfaces: that on the left side soon completely cicatrized, and has remained well since that time; but the right, when on the point of healing, formed a small patch of

the same incrustation as before. She left the hospital on account of her health, and returned in October last, when the ulcer was of the same size on the right cheek as in March. It was again destroyed, apparently, by the same means, but a second time began to spread just before the cicatrization was completed. She was again admitted in March last, with the ulcer, a third time, of its original size, but on the lower part of the left cheek (not in the cicatrix) three smaller patches of the same character had lately appeared. The caustic was this time applied so as to make deeper sloughs, and the ulcers now entirely skinned over: whether permanently or not, remains to be proved.

b. A second situation in which the cancerous ulcer not unfrequently originates is at the angle between the inner canthus and the nose, affecting one or both eye-lids, generally the lower one first. Of the disease when situated on the eye-lid you have seen an instructive example in an early stage in Mr. Babington's patient, who has been cured, we hope, by excision. Mr. Pollock has given me these notes of her case, which I will read to you.

Sarah Gauthier, æt. 51.—Admitted with semi-malignant ulceration of the skin below the right eye, including a considerable portion of the lower eye-lid at the middle of the tarsal cartilage, where the meibomian glands have been destroyed, and the eye-ball a good deal exposed, by the lid being forcibly drawn down. The granulations are rather fungous in appearance, and florid; discharge sanious; pain very slight. When admitted, the ulcer was about the size of half-a-crown, irregular in shape, of twelve months' standing. Reflection of conjunctiva is dry and unpolished; eye always feels cold. States that she has been subject to this kind of ulceration in the same spot for twenty years; that is, commencing when she was 31. About two years ago the surface was destroyed with chloride of zinc, and the ulcer healed, and remained well for a year, the eye-lid being much drawn down after it.

Was ordered the following lotion—

Acid. Nit. dil. ʒj.; Aquæ, ʒiv. M.

Feb. 9.—Ulcer contracted, and improved in appearance.

24.—Ulceration almost healed. To be an out-patient.

March 24.—Readmitted. The ulceration has again returned; with a fungous and tubercular aspect, discharging somewhat copiously, with acute severe pain: nearly the whole of the skin covering the tarsal cartilage is implicated.

April 1.—The whole of the diseased part was extirpated; the cellular texture beneath appearing healthy: the structure of the growth was of scirrhus character, white,

faintly striated, and firm, with a hardened base.

17th.—Surface of sore threatens to put on a fungous form of granulation: actual cautery applied.

22d.—The wound was quite healed on the cheek: the lower lid a good deal drawn down by the cicatrix: the conjunctiva of lid not quite healed. Went out.

In this case the early age at which the ulcer commenced is remarkable; so is also the length of time it remained well after the caustic was applied, which looks almost as if the disease had really been destroyed, but re-appeared in consequence of constitutional taint in the imperfectly formed cicatrix; and, again, you saw how much improvement could be effected for a time by a simple application. In this case, also, it is too soon to reckon on the cure being completed.

Our patient, Riley, shews us the cancerous ulceration of the same parts in a more advanced stage. This man is 61 years of age, and was admitted February 24th, with ulceration about the eye, which commenced about two and a half years before, by the formation of a little tubercle immediately below the inner angle of the right eye, which gave him no pain, but it ulcerated in a few months time, and subsequently healed under medical treatment. It remained well for a little while, but again broke out twelve months ago, and has since gradually increased.

The ulcer has destroyed the inner half of the lower lid, and extends deeply into the orbit; it has destroyed a part of the inner portion of the upper lid also, and reaches over the bridge of the nose to a small extent on the left side. On the outer part of the orbit the two lids are quite drawn together and hardened, with several hard and prominent tubercles in the skin, and some fungous red granulations of cancerous nature between the lids (which the plate shows you the appearance of, but which do not now exist). The eye-ball is only half its proper size, and is contracted and fixed by the outer half of its circumference, and just shows you where it is situated by your making him try to move it, and you may perceive a little circular part not so red as the rest, which doubtless was formerly the cornea. The inside of the globe is covered by red, florid, and firm granulations, the ulcer here going deeply inwards, perhaps an inch or more, and apparently affects the periosteum of the maxillary and æthmoid bones. At a later period, indeed, an opening formed in the floor of the orbit, so that the probe could be passed to the bottom of the antrum; and yet again, at the present time, this has filled up and closed. His countenance at the time of his admission looked as if he was still in good health, and no glands were enlarged. His right hand, however, could not be held

steady, and was constantly tremulous, even when laid on the bed, though it could be moved voluntarily so as to grasp well: this paralysis agitans he had observed three months; and you may have noticed, that it is always increased when he is not well, as, for example, after caustic is applied.

From his manner, and from the affection of the arm particularly, it seemed questionable whether the disease might not extend deeper than the periosteum of the orbit; and I at first hesitated about the use of caustic, lest I should produce a fatal influence upon the brain; but, on the whole, after a few days' observation of his state, and finding only the arm of the same side affected, I concluded that it was only the tremor which elderly persons often have, since, if it arose from the cancer, it ought to affect the left arm, and not the right. Still there was sufficient evidence of disturbed circulation, or diseased blood-vessels of the brain, to make me proceed cautiously, beginning with the outer parts before I applied it to the inside of the orbit; and you may have noticed that he had sometimes a good deal of fever, and depression of nervous power, from its employment.

The cancerous ulceration, then, in our patient has destroyed a good deal of the external parts of the eye, and has caused collapse of the globe; but the structures of the eye-ball resist the ulcer much more than the skin or the conjunctiva, so that I have seen the cornea quite clear, when the conjunctiva round it was hard and elevated, and covered with little tubercles, and with much ulceration; and sometimes, instead of the opaque or collapsed globe being fixed and concealed on one side, as it is in Riley, the ulceration proceeds gradually all round, so that the eye-ball is entirely exposed, and insulated in its socket, and only suspended by its muscular attachment, the muscles also not having so much tendency to ulceration as the cellular membrane and fat of the orbit.

Again, in our patient the periosteum of the frontal, æthmoid, and maxillary bones, is affected, and the osseous structure of the latter has been ulcerated, so as to open the antrum. In some cases, however, the most hideous disfiguration is occasioned, by the absorption of the bones of the orbit, exposing the cavities of the antrum, or the mouth, the nose, and even the cranium*. You may easily picture to yourselves the termination of such a scene by irritation and cerebral affection, but yet to the last there may be none of the bleeding, or foetor, or fungus of common cancer, and no affection of the glands, or of other parts of the body.

* Vide MEDICAL GAZETTE, vol. xxiv. p. 31; or the Drawings in Dr Jacob's Paper, or Dr. Warren's work on Tumors.

c. A third situation in which I have seen the cancerous ulcer commence, is on the flat part of the side of the forehead; which is well seen in this drawing from a patient in the hospital. You may perceive that the ulceration has affected the whole surface, nearly from the ear to the eye, and from the cheek to the vertex, but that the peculiar structure does not exist every where, a considerable portion having firmly cicatrised; round the margin, however, there are numerous little brown scabs or tubercles, each like the original one, and capable of producing fresh ulcers. Near the eye the contrast between the firm whitish red surface of ulcerated skin covering the temple is contrasted with the looser texture, and prominent florid granulations of the ulcer of the eye and conjunctiva. The hard bands running across the ulcer in this situation seem to arise from the firmness of the tissue formed by the united skin and fascia, and periosteum; and its so readily healing in many parts, when situated on the forehead, I have been inclined to think is owing to the ulcer only destroying the outer layer of the cutis, leaving some cutaneous structure to cicatrize firmly and readily. In a gentleman who had the disease for many years, the firmer cicatrix, and paler ulceration on the thin skin of the forehead, was very well contrasted with the thicker and more florid bands of the ulceration affecting the thicker skin of the nose, the cheek, and the ear, and the softer and more fungous granulations of the loose tissue of the eye-lids. In both the patients I have alluded to, although of above twenty years' standing, the ulceration had in no part gone below the cutis, or at the utmost to a very small depth. In one, who is, I believe, still living, there was no glandular affection, and the health was perfect; the other died of an accidental attack of erysipelas, and I examined carefully for any evidence of contamination, without finding any, although the section of every part of the disease, in which it was advancing, shewed distinct evidence of its scirrhus nature, however thin was the portion of skin in which the new structure was situated.

It remains for me to make a few remarks on the treatment of cancerous ulceration, in addition to what has been already said; and the first thing that is immediately obvious, from the history of the structure and progress of the case, is this—that you must not lose time in endeavouring to heal an ulcer of such a nature, but as the tubercle and its subsequent ulcer are really malignant, though only locally, and in the slightest possible degree, you must, wherever it is practicable, entirely eradicate the new structure; and it can only be removed effectually in two ways,

viz. excision by the knife, or destruction by caustic. Perhaps the operation is more often followed by cellular inflammation, and the action of caustic by erysipelas and severe constitutional irritation; but this is by no means constant. Some patients will prefer caustic to the knife, even if told that the latter is much better for them, and circumstances may make one method or the other preferable in particular cases; or partial excision, followed by caustic, may be more certain than either plan singly; as, for example, a broad thin ulcer had better have caustic applied, while another, which is both large and deep, may be better treated by excising what is readily accessible, while caustic is applied to the remainder, so as to give the patient less pain than if the caustic is required to act through much thickness of parts. The best caustic for the purpose is the chloride of zinc, with a third or an equal part of sulphate of lime, according to the strength required; it is preferable to the kali purum, as with a little practice you can know better the effect you are going to produce, and it is followed by a much more healthy surface, which readily cicatrises: indeed you may very safely apply it to small portions of the diseased part at a time, so as to give less suffering than if the whole was destroyed at once, which is sometimes more than the system can well bear, and without any aggravation of the mischief, or the acceleration of the growth of the remainder, which I have repeatedly seen in consequence of the potassa fusa having been partially or ineffectually applied. You have seen me use also in Riley's case a caustic which the French surgeons are rather fond of, and call the acid nitrate of mercury; I used it of the strength of half a drachm of nitrate of mercury, dissolved in half an ounce of strong nitric acid; it acts only on the part you touch with it, while the chloride of zinc continues to act for a considerable time, and to a depth proportioned to the thickness of the paste you use. The caustic made by arsenic in ointment or paste, or dissolved in nitric acid, produces the same kind of healthy sore as the chloride of zinc does, but is attended with risk of poisoning the patient if the ulcer is large, which danger the chloride is free from. Perhaps, on the whole, Riley has complained less of the nitric acid and nitrate of mercury than he did of the chloride, but I do not know that it was quite so effectual as the other. You have seen, however, how much less extensive the ulcer now is than when the drawing was taken, and the orbit too has a good deal filled up, and the bone become covered by what appears to be healthy substance, rather than any growth of morbid structure. How near we shall reach to a cure I know not, but I conclude

the disease is much too extensive for us to look forward to it. Excision also seemed quite out of the question in his case, without our being able to tell how deep the morbid structure extends to the bottom of the orbit, or how much it has affected the frontal and æthmoid bones, the excision of which would open the cranium.

You have also seen the action of caustic apparently successful in Mr. Tatum's patient, where the disease was on the cheek, and have witnessed excision of the eye-lid in Mr. Babington's patient, after the caustic had been only temporarily successful; as long a time indeed as a year having elapsed without fresh ulceration. In the latter case there was a good deal of retraction after the caustic, and there must of course be still more after the larger removal of the eyelid by the knife; and this is a great disadvantage attending either method of treatment on the eye-lid, as the exposure necessarily endangers the eye becoming opaque; there is indeed less risk of this when the lower eye-lid is removed, than when the upper is lost, since the upper one is of more consequence to the wiping and washing of the organ by the tears.

Where the disease cannot be removed or destroyed, it must be soothed by various applications, which seem not only to relieve pain, but to retard the growth, and almost, if not altogether, to make the surface skin over. This was the case with the acid wash, and with the actual cautery, in Mr. Babington's patient, and much good seemed to be done to the ulcer in Riley by the ointment of iodide of lead or of mercury. The black wash agrees well; so does a strong solution of lunar caustic. In one case the ung. argenti nitratis was given to a patient of mine by mistake for the ung. hydrargyri nitratis, which I had ordered, and it made the ulcer cicatrise (for a time at least) in three or four days; and I have since used it several times with much advantage, of the strength of ten grains to a drachm. A gentleman who employed it with benefit while under my care, had previously found an ointment of vervain, which had been recommended to him, afford him more relief than any thing else, and he had tried many applications during many years, including Holloway's ointment, and every other quack medicine, as well as a considerable variety of regular prescriptions. On one occasion I recollect that the biniodide of mercury did good when the iodide had failed. I have seen the applications of the phosphate or carbonate of iron appear to be of some benefit, as recommended by Mr. Carmichael, I think, but not of nearly so much use as in the more painful forms of common cancer, or some cases of lupus. By some of these

applications occasionally the disease seems to be destroyed in much of its extent, while still spreading elsewhere, and now and then seems quite cured, till some fresh tubercles form.

The patient is generally in such excellent health, that general remedies would appear, *à priori*, not likely to do much good, nor can I say that I have derived much benefit from the use of sarsaparilla, or iodide of potassium, or oxide of arsenic, or bichloride of mercury, which are of so much use in many cases of phagedenic ulceration of other kinds, especially if accompanied by any cachexia; the arsenic I think I have seen do a little good now and then. Some form of narcotic, when the pain is very great, combined with a little purgative, seems almost the only medicine usually necessary. In spite of all your care the disease may now and then prove fatal, when of large size.

OBSTETRIC PHYSIOLOGY

CONSIDERED IN REFERENCE TO THE PRESENT
STATE OF

DEVELOPMENTAL SCIENCE.

By JOHN COVENTRY, Esq.

[Concluded from page 113.]

[For the London Medical Gazette.]

THE following tables exhibit the respective composition of the ovarian and mammiferous ovum:

1. According to order of development.
2. According to analogy.
3. Their phenomena under impregnation.

1. According to order of development.

In the bird.

Germinal vesicle.
Germinal spot.
Vitellus.
Vitelline membrane.
Chorion.
Stroma of condensed ovarian structure forming the calyx.
Indusium or peritoneal investment of the ovary.

In the mammal.

Germinal vesicle.
Germinal spot.
Ovisac granules.
Ovisac.
Vitellus.
Zona pellucida (chorion of R. Wagner and Bischoff.)
Condensed ovarian tissue, forming the outer coat of the Graafian vesicle.
Indusium or peritoneal coat of the ovary.

2. *According to analogy.*

In the bird.

Germinal vesicle.
 Germinal spot.
 Vitellus.
 Vitelline membrane.
 Chorion.
 Stroma forming calyx.
 Indusium.

In the mammal.

Germinal vesicle.
 Germinal spot.
 Ovisac peculiar granules.
 Vitellus (formed of oil globules).
 Zona pellucida.
 Ovisac.
 Stroma forming outer coat of Graafian vesicle.
 Indusium.

(Now one apparently marked diversity between the oviparous and viviparous ovum, is, that in the former the ovum is contained in a capsule of condensed cellular tissue and blood-vessels; whereas in the latter the ovulatory nidus consists of a Graafian vesicle composed of an external vascular, and an internal structureless layer.

The above analysis, however, shews that we have but to substitute the terms "chorion" for "ovisac," and "vitelline membrane" for "zona pellucida," and the difference is reduced to a mere excess of peculiar ovisac granules on the part of the mammiferous ovum).

3. *Their phenomena under impregnation.*

In the bird.

Dispersion by liquefaction of the germinal vesicle, and the yolk globules in which it has hitherto been imbedded, (the yolk globules immediately surrounding the vesicle are termed *discus proligerus*, and together with the vesicle constitute the unimpregnated *cicatricula*), and appearance of the blastodermic (germinal) membrane, the centre of which is the germ presenting an appearance termed *stratum proligerum*, (*Cumulus proligerus vel nucleus cicatriculæ*). The blastodermic membrane and *stratum proligerum* constitute the appearance termed impregnated *cicatricula*.

Separation of the blastodermic membrane into three laminæ—serous, mucous, and vascular, from which, according to Pander, are evolved all the embryonic structures.

Dehiscence of the calyx, and escape of the ovum into the infundibulum.

Deposition of three layers of albumen, and the chalazæ or suspensory ligament, (formed also of albumen, but more condensed), around the ovum in its passage to the isthmus—the analogue of the uterine extremity of the fallopian tube.

Acquisition by the ovum in the isthmus of two membranes—the *membrana testæ* or *putaminis*, and *membrana Townii*, or inner lining membrane of the shell.

Arrival of the ovum in the calcifying segment, or analogue of the uterus, where is added the shell.

Extrusion of the egg through the cloaca, or common outlet of the uterus, urinary bladder, and rectum.

In the mammal.

Retirement of the germinal vesicle from the surface to the centre of the vitellus, and of the germinal spot to the centre of the vesicle.

Removal of the vesicle by liquefaction, and consequent formation of the mulberry body—the mammiferous *cicatricula*.

Absorption of the peritoneum, ovarian stroma, and coats of the Graafian vesicle, and entrance of the ovum into the fallopian tube.

Imbibition of moisture by the ovum in the tube, and consequent formation of the outer layer of the chorion (*exochorion*: Burdach).

Arrival of the ovum in the uterus, where it is immediately surrounded by the deciduous membrane.

The foetal involucra evolved from the ovum are two, the chorion and amnion, with the history of which are associated two other products, the umbilical vesicle and allantois.

The chorion, the outer foetal envelope, is a very delicate, translucent, cellulo-vascular membrane, of compound structure, consisting of three layers.

The external chorionic layer (*exochorion*: Burdach) is supplied to the ovum in its course through the tube: it is a structureless membrane composed of cells closely resembling those of vegetable tissue.

The internal chorionic layer (*endochorion*: Burdach) is of a mucous character, being derived from the allantois, a membranous pouch developed from the rectum* or periphery of the germinal membrane, on which ramify the capillaries of the umbilical vessels, continuations of the internal iliacs.

* At this stage of development the future intestinal canal is but one simple line of mucous membrane. This is next evolved into a straight tube extending from the faucial to the anal extremity, the analogue of the persistent conformation of annelidæ, and some of the lower animals. An arrest of the tubular process of development constitutes the pathology of imperforate anus. The intestinal convolutions are subsequent productions.

The office of the allantoïd membrane appears to be to guide this capillary *rête* to the exochorion, and thus contribute to form the placenta.

The middle layer of the chorion is the vascular plexus just noticed; and when applied to, and seen through the external delicate membrane, gives rise to the appearance termed shaggy chorion.

The amnion forms the immediate embryonal involucre; like the exochorion, it is of extreme tenuity, without traces of vessels or nerves: it is considered therefore a structureless membrane, although the importance of its secretory function is against this view.

The more probable supposition is, that its vessels, from their extreme minuteness, do not admit the colouring material of the blood, and therefore elude observation.

The amnion is a diverticulum of the serous lamina of the blastodermic membrane, developed from its periphery, after the deposition from its centre of the elements of the nervous, osseous, ligamentous, muscular, and cutaneous systems.

With the latter it is continuous at the umbilicus, and may be compared to a prolongation of the cuticle into an embryonal sac.

After completely investing the embryo it is reflected upon the vitellus to form the lamina, or vesica serosa, or false amnion.

The fact of its origin from the serous layer of the blastodermic membrane, still farther discountenances the idea of the amnion being structureless.

Again, a glance at its pathology would lead to a very opposite opinion. Thus, in hydrops amnii, the excessive secretion could scarcely obtain but through the medium of increased capillary action.

Like other serous membranes, the amnion forms a shut sac, being continuous with the general tegumentary investment at the umbilicus; then reflected on the umbilical cord, and, after investing the entire fœtus, terminates by surrounding the vitellus.

The space between the amnion and chorion is occupied, in early gestation, by an albuminous deposit; according to R. Wagner, resembling intermuscular cellular tissue, and bearing the same relation to the amnion as this

tissue to the muscular fasciculi between which it lies.

It is considered analogous to the albumen of the bird's egg. It becomes, in maturer pregnancy, a fine web-like membrane, surrounding the amnion to the full term. The deposit itself is the magma reticulare, (Velpeau); the membrane, the tunica media, (R. Wagner). With the progress of development the allantoic sac becomes constricted at the umbilicus, which constriction is soon elongated into a duct, the urachus; and with the still farther evolution of the embryo a division obtains of the allantois into an intra-abdominal and extra-abdominal portion. The former constitutes the urinary bladder, which communicates with the extra abdominal portion (in quadrupeds to the close of gestation) by the urachus. After birth it degenerates into a fibrous, impervious cord, contained in the anterior false ligament of the bladder.

The umbilical vesicle.

The vitellus of the unimpregnated ovum having derived an external vascular, and an internal mucous investment, from the corresponding blastodermic layers, is now termed umbilical vesicle.

This production is far more essential to oviparous extra-uterine than to viviparous germination; in the former acting as placenta.

Still, in very early incubation its function is a very important one, both to the bird and the mammal.

On it is established the primary embryonic circulation, which consists of arteries from the aorta, and two veins returning their blood to the vena cava.

In progress of development, however, it materially alters its relations in the two classes.

In the bird an opening is formed for it in the albumen of the egg (according to Mr. Towne, of Guy's Hospital; the German physiologists state that the vitellus penetrates the albumen by absorption); and under the name of embryo trophé, it is gradually entirely received into the abdomen.

In the mammiferous embryo its neck is prolonged into a duct, which, as gestation proceeds, retires from the abdomen, and becomes impervious and filiform: the vesicle itself shrinks, and at the full term of gestation is scarcely appreciable.

Some, in fact, have altogether questioned its existence: with care, however, it may generally be detected between the amnion and chorion, prolonged, as a delicate white line, into the umbilical cord.

In birds, the vitelline duct is of considerable calibre at the full period of incubation, communicating with the jejunum by an infundibular opening, which jejunal diverticulum constitutes the persistent normal economy of some birds.

Tubal phenomena.

The fallopian tubes of the human female correspond to the uterine cornua of quadrupeds; and the constricted portion of the oviduct, bounded above by the infundibulum, below by the isthmus, of birds.

The fimbriated extremity of the tube agrees both structurally and functionally with the infundibulum; and its uterine angle with the isthmus.

The fallopian tubes lie in the anterior folds of the ligamentum latum, and consist of a peritoneal coat, a proper parenchyma, somewhat resembling erectile tissue; and a lining membrane continuous with that of the uterus.

Their structure is admirably adapted to their function.

The distensile parenchyma freely admits the swelling of the 'zona pellucida' of the ovum, whereby it acquires its chorionic involucre; and doubtless, on the cessation of the orgasm, the return to their natural calibre of the distended vessels assists the propulsion of the ovum towards its destination.

In tubal gestation, its lining membrane, analogous to that of the uterus, like it secretes a decidua. Hence, the production of the decidua in tubal impregnation, resulting from the membranous continuity of the tube and the uterus, forms no argument against the opinion that the decidua is exclusively a uterine formation.

Thus, when gestation is not only extra-uterine, but extra-tubal, we have no trace of decidua in the locality of the embryo, which therefore very soon perishes.

Thus we frequently detect the débris of conception in the shape of hair, spiculæ of bone, &c., as in ovarian gestation; and in the intestines, the fœtus becomes either quite putrescent, or converted into a species of adipocire;

this being entirely owing to the absence of the deciduous secretion.

Whereas in tubal gestation, owing to the caduciferous function of its lining membrane, gestation may go on to the full period, the tube nearly equalling in size the gravid womb.

The only tubal phenomenon connected with impregnation is the formation of the exochorion.

Uterine phenomena.

The uterus ranks next in point of importance to the ovary. In birds it is termed calcifying segment, which furnishes the shell; on this account, by some, considered the analogue of the decidua.

Here, however, the parallel ceases, for the egg does not remain in the calcifying segment long enough to form any attachment; but is quickly expelled through the cloaca.

The uterine constituents are a partial serous investment from the peritonæum, a proper parenchyma, consisting of circular and longitudinal muscular fibres, connected by cellular tissue, in which are imbedded nerves, vessels, and lymphatics; and a lining mucous membrane.

This structure, like that of other organs generally, suggests a most useful pathological classification, with which, at present, we have not to do.

It is rather remarkable that although in the ovary menstruation simulates conception, in the rupture of a Graafian vesicle, and the production of the so-called false corpus luteum, it is attended by few, if any, of the uterine sympathies of that process.

The virgin uterus, even in virgins of a "certain age," and after years of catamenial regularity, does not exceed the average dimensions.

The uterine results of impregnation are, the production of the deciduous membrane, the closure of the os uteri, the extraordinary growth of the organ itself, the alterations of the os and cervix, and, at full time, the process of expulsion*.

The decidua is a secretion, by the uterine mucous membrane, of a layer of organizable lymph. (According to Dr. Ashwell, the talented Obstetric Lecturer and Physician of Guy's Hos-

* As there are no new facts of importance connected with the four last-named phenomena, I pass them by, to avoid unnecessary protraction of this article.

pital, the main use of the catamenial function is to preserve the uterine mucous membrane in a fit state for the secretion of the decidua.)

Its predominating property is extraordinary plasticity, insomuch that at a very recent period of its exudation it presents a perfect mould of the interior of the womb; and, on the arrival of the ovum, accommodates itself to that with equal facility.

The decidua is the uterine investment of the ovum. Its external surface is rough, closely applied to the uterine membrane, and presents, according to Dr. Montgomery, a number of cotyledonous or cup-like processes.

This arrangement only obtains (in the human female) in early gestation; at a later period the decidua is developed into the maternal placental sac; as I shall endeavour to show in considering the placental structure according to the views of Dr. Eschricht, of Copenhagen.

The decidua is a bilaminar membrane. The ovum, on entering the uterus, appropriates one layer, the decidua ovuli (Dr. Robert Lee); the other lining the mucous membrane of the uterus, decidua uteri.

Between the deciduæ is a cavity containing fluid. The cavity gradually diminishes with the progress of gestation; with the increase of the ovum, and coalition of the deciduæ, disappears.

The decidua is also termed perione (*περι-οον*), on which account the cavity receives the name of hydroperionic cavity, and the fluid that of *hydroperioné*.

Utero-ovular phenomena.

Under this head I propose briefly to consider the latest and most probable views with regard to the formation and structure of the placenta.

Now, although applying these terms in a different sense to the Hunters, the placenta is best described as composed of a foetal and a maternal portion.

The maternal element is merely a simple sac derived from, and continuous with, the general lining membrane of the maternal blood-vessels, which becomes thus developed to form an extensive absorbing surface for the nourishment of the embryo, just as the lining membrane of the Graafian vesicle has previously done, for a similar purpose.

The foetal portion of the placenta

consists of the ultimate ramifications of the umbilical vessels, which terminate in the form of tufts, each of the latter consisting of a minute division of the umbilical artery and vein.

These tufts carry before them in all directions the sacciform maternal membrane, from which they thus derive a sheath, and terminate in blunt extremities; some of them penetrating the uterine sinuses, being there retained by reflections of the same membrane.

Such is a simple exposition of Dr. James Reid's views of the placenta, which have obtained the acquiescence of some of our ablest physiologists.

But the hypothesis, which to me appears to have prior claims even to Dr. Reid's ingenious theory, is that of Drs. E. H. Weber, of Leipsic; and Eschricht, of Copenhagen.

According to these physiologists, the maternal portion of the placenta, in addition to the sac already described, and the derivation of which they assign to the decidua, consists of dendritic or tufted prolongations of the uterine vessels, similar to those of the umbilical vessels of Dr. Reid, whilst the foetal portion is composed of the umbilical vessels (according to Dr. Reid's arrangement), but also deriving sheaths or processes from the chorion.

Both theories agree in that there is no direct continuity of maternal and foetal vessels; so that I think this *questio vexata* at length is at rest.

According to Dr. Eschricht, the object of this subtle arrangement is to secure the intimate contact of the foetal and maternal capillaries.

From an attentive consideration of the subject, and altogether unaware of Dr. Eschricht's views, I had some time since arrived at the same conclusion.

In a paper read before the Webb-Street Physical Society last February, I stated that "it appeared to me, on careful consideration of the utero-ovular economy, that the maternal and embryonic capillary systems were most intimately connected; and thus obtained all the functions necessary to the development of the latter.

And it is a fact showing the coincidence between the results of observation and those of inference, that I was led to the conclusion, as stated in the same paper, "that if the maternal vascular system form an investment for the foetal placental vessels, might not

the fœtal vascular system, by a similar disposition, be reflected on the villi of the chorion, so as to form its exochorionic layer? The fact that the original exochorion is acquired by the ovum in the fallopian tube, is unaffected by this supposition.

To explain the seeming incongruity, it must be considered that the *cortical* ovular membrane varies with the stadium of evolution.

This perfectly conforms with the general law of metamorphosis, so universally conspicuous in every department of organic nature.

Having now considered each particular proposed at the outset, I hasten to close these already too protracted observations.

CASES ILLUSTRATIVE

OF THE

EFFICACY OF IODINE AND ALTERATIVE DOSES OF MERCURY,

IN THE CURE BOTH OF THE PRIMARY AND SECONDARY SYMPTOMS OF THE VENEREAL DISEASE.

BY JOHN WICKENS WEST, M.R.C.S.L.

(For the Medical Gazette.)

CASE I.—Elizabeth Foster, æt. 33, became a patient of mine about four months ago. She was then labouring under violent pains in her limbs, especially at night, which prevented her sleeping, ulceration of the tonsils, and a considerable swelling over the tibia of the right leg, and also on the os frontis, both of which were exceedingly painful to the touch; and, in the course of a few days after I first saw her, both swellings were in a state of ulceration. She stated she had contracted the primary symptoms about two years before, but of which she got cured without much difficulty. After the lapse of some time she was attacked with pains in her feet, elbows, and shoulders, with constant inclination to vomit: these symptoms lasted some days, and then an eruption appeared on the breast and arms. This was quickly followed by sore throat and pains in her limbs, especially at night. She took a variety of medicines from different practitioners, but still the symptoms increased. I ordered her the following:—

℞ Tinct. Iodinæ, ℥ xv. ex cyatho aquæ ter quotidie.

725.—XXIX.

℞ Pil. Hydrarg. gr. iss.; Pulv. Doveri, gr. iij.; Conf. Rosæ q.s. ut fiat pil. nocte manequē sumend. ℞ Solut. Chlorid. Sodæ, ℥ iss.; Aquæ Puræ, ℥ iv. Fiat gargarisma frequenter in die utend.

This plan I continued, without the slightest alteration, for two months, during which the symptoms generally improved, and at length entirely yielded. The ulceration of the tonsils, and the extensive sores on the leg and forehead, healed. The pains in the limbs ceased. She had quiet nights, her health quickly improved, and she is now quite well.

She had not left her bed, excepting for a few minutes at a time, for the space of nine months; and her house for more than two years.

CASE II.—A gentleman applied to me in the month of May, 1840, with a large chancre on the glans penis, which he had caught a month before, and for which he had been taking mercury ever since: its character was unhealthy, with a hard base and considerable irritation of the surrounding parts. He had lost his appetite, and was suffering from debility to a very great degree. I prescribed the following mixture:—

℞ Sulph. Quininae, gr. vj.; Acid. Sulph. Dilut. ℥ iss.; Inf. Rosæ, ℥ vj. fiat mist. cujus capiat cochl. duo magna bis quotidie.

His health considerably benefited by this plan, but the chancre remained unhealthy, and without any disposition to heal.

A month after I first saw him he complained of sore throat, which was speedily followed by a copper-coloured eruption on his body, and the chancre continuing the same I determined on giving him—

℞ Tinct. Iodinæ ℥ xv. ex cyatho aquæ ter die sumend.

He came to me a week after he had been taking the above medicine, and I found the sore throat better, and the eruption fast disappearing: the chancre was likewise much improved.

I recommended him, in addition to his medicine, to change the air for a short time, which he accordingly did. He returned in three weeks with his health much improved: the chancre had healed; the sore throat entirely gone, and the eruption likewise.

CASE III.—William Monk, æt. 36,

applied to me in December, 1840, with an eruption on his skin, pains in his limbs, ulceration of the soft palate, and a node on the left shin. He stated he had had chancre two years previous, for which he took pills of a druggist, and soon got cured. I ordered him—

℞ Tinct. Iodinæ ℥xx. ex cyatho aquæ ter quotidie. ℞ Pil. Hydrarg. gr. iss.; Pulv. Doveri, gr. iij.; Conf. Rosæ, q.s. et fiat pil. nocte manequè sumend.

Nov. 1st.—Has been taking the above for ten days, and finds the pains in his limbs relieved, and the eruption less, but the other symptoms as before.

12th.—The ulceration of the palate healing, and the other symptoms entirely removed.

18th.—Quite recovered.

CASE IV.—William Hewlitt, æt. 22, contracted the primary symptoms of syphilis in April 1839. He had an unusually large chancre, which involved nearly the whole of the glans penis. The glands in the groin were enlarged, and exceedingly tender and painful. I prescribed for him the following:—

℞ Pil. Hydrarg. gr. iij.; Pulv. Doveri, gr. iv.; Conf. Rosæ, q.s. et fiat pil. nocte manequè sumend.

He persevered in the above for some time without much alteration in the state of the chancre, and I then gave him iodine, which, in conjunction with the pills, had the effect of soon recovering him.

CASE V.—William Martin, æt. 52, consulted me June the 10th, 1840, in consequence of an ulceration at the back part of the fauces, leprous eruption on the legs and arms, and a painful swelling on the tibia of the right leg. He informed me that, about two years ago, he had chancre and gonorrhœa, and a suppurating bubo, but which all yielded to treatment.

I prescribed the tincture of iodine and pills, as in the other cases, with equal success; the symptoms disappearing by the end of two months.

CASE VI.—J. R., æt. 26, became my patient on the 6th of Sept., 1840, with a large Hunterian chancre near the frænum, and an inflamed gland in the left groin approaching to a state of supuration. I recommended poulticing the groin, and gave him simply an aperient mixture.

13th.—The chancre more healthy, with a disposition to heal, and the bubo suppurating freely.

June 6th.—The chancre healed, but the ulcer in the groin has spread, and assuming a phagedenic appearance, which continued to increase until the 18th. I ordered

Tinct. Iodinæ ℥xx. ex aqua, ter quotidie. ℞ Pil. Hydrarg. gr. ij.; Pulv. Doveri, gr. iij.; Conf. q.s. fiat pil. nocte manequè sumend.

The ulcer improved under this plan.

26th.—A small swelling has made its appearance in the right groin, but the ulcer in the left nearly healed. As there is disposition to ptyalism I omitted the pills, and continued the tincture of iodine.

July 2d.—The ulcer in the left groin has healed, and the swelling in the right subsided.

The cases I have related I think are sufficient to shew that it is the combined influence of iodine and mercury which has the effect of removing both the primary and secondary symptoms of syphilis. I relied in all cases where chancre was present on the constitutional treatment without local applications; and I had the satisfaction of finding it succeed. I am aware that iodine by itself has succeeded in curing some severe cases of secondary symptoms; but I do not think it can be so much depended on, in all instances, as when it is given with alterative doses of mercury. The symptoms affecting the general system, where the primary or local disease has not been treated with mercury, it will answer as well.

Poole, October 15, 1841.

CASES OF SUFFOCATION AND POISONING.

To the Editor of the Medical Gazette.

SIR,

IF you think the following cases of sufficient interest, I will thank you to honour them with a place in the MEDICAL GAZETTE.—I am, sir,

Your obedient servant,

J. B. THOMSON.

Tillicoultry, Oct. 10, 1841.

CASE I.—*Suffocation from a pea in the windpipe.*

August 8th.—This evening I was summoned, without delay, to visit a fine child, of two years and a half of age, apparently dying of suffocation: the

eyes were fixed and staring; the countenance livid, and expressive of great anxiety; the inspirations difficult and noisy; the expirations short and forcible. The child occasionally attempted to cry and cough ineffectually, or with a hoarse croupy sound. There was a sound in the windpipe like that of a valve opening and shutting, which sound seemed to arise from a foreign body striking at intervals against the region of the rima glottidis. Slight convulsive motions affected the whole body. On looking into the throat I saw a number of peas lying at the back of the fauces, and pushed them into the gullet; still the alarming symptoms remained, and it seemed evident that a pea or some foreign substance had found its way into the larynx, or was probably entangled in the chink of the glottis. I ran home for a scalpel, and when I returned the child seemed in *articulo mortis*, so that the friends thought it needless to do any thing. I proceeded, however, to open the trachea, and the moment the scalpel entered, the child was relieved. In a few seconds expiration and inspiration went on freely. Considerable venous hæmorrhage took place. Still there was no appearance of a foreign body. I introduced a bent probe through the external opening upwards to the glottis, and felt a hard round substance, which I tried to push upwards into the throat. Convulsive coughing took place, and, on withdrawing the probe, breathing went on by the mouth and nose, and every symptom of danger disappeared. Soon after this a neighbouring medical practitioner whom I had sent for arrived, and in a consultation with him it was resolved that, although there was no certainty of the foreign body being removed, yet all symptoms of danger were absent, and no further operation was warranted. Leeches and antimonials were had recourse to, and any inflammatory results were slight and easily obviated. The child got well; the wound healed; and my patient even ran about the house and out of doors with his wonted liveliness. The only suspicious symptom remaining was cough for about a fortnight after the accident. I had ceased attendance, and my fears were beginning to be forgotten, when on the 26th of August, eighteen days after the first alarm, I was asked to visit the child. He was feverish, had

a bad cough, with mucous râle; appetite impaired; flesh soft and flabby. The mucous râle and painful cough increased my suspicions that a foreign body was still lurking about the bronchi. The child had antimonials and a purgative.

Next morning an express called me to see the child. I found all the former alarming symptoms of suffocation had suddenly returned, and the mischievous body was evidently floating loosely in the trachea, and striking, at every cough, against the rima. Although the child's pulse was low, and there was not the same hope of the operation being ultimately favourable, I insisted on again opening the trachea. The friends refused to submit, on the ground that the child was just dying, and there was no room for hope. Convulsions carried off the child within two hours from this attack. No post-mortem inspection could be procured.

REMARKS.—It appears quite certain, from the history of this case, that a foreign substance (probably a hard pea) had found a lodgement about the upper part of the windpipe, threatening suffocation; and on the trachea being opened, the admittance of air through the opening revived the sufferer. At the same time the pea left the upper part of the windpipe, and occupied a situation in the bronchi, which had no perceptible influence upon the respiratory process. It is well known that a foreign body may so remain for a long time in some part of the breathing apparatus, and be coughed up through the rima months afterwards; but my case shows that a very different result may take place—all may seem favourable, and sudden suffocation ensue. I own I have had some *compunctious visitings* since this case terminated fatally, and deeply regret that I did not insist strenuously upon keeping the opening in the trachea patent by the introduction of a tube; and were such a case again presenting itself, I should certainly try to benefit by my melancholy experience in the present instance.

CASE II.—*Poisoning by Sulphuric Acid.*

On June 6th, at 11 o'clock P.M., I was called in great haste to visit an infant of about a year old. The mother had thought it necessary to give her child a little castor oil for a slight cold

it had caught. The castor oil stood in a closet beside the concentrated sulphuric acid, and both articles were contained in the clear bottles commonly used for Ol. Ricini. A tea-spoonful of the castor oil was first given in a little milk with sugar; and part of this mixture being lost in the administration, it was resolved to give a little more. Half a tea-spoonful of sulphuric acid was then given by mistake instead of the castor oil. This latter dose was poured into a tea-spoon containing a little sugar and milk, with some remains of the first dose adhering to the spoon, and in this way administered to the infant. The mistake was immediately discovered from the little victim's painful cries and restlessness, and confirmed by coloured figures in the nurse's gown being discharged by some of the liquid being rejected. Not more than twenty-five minutes elapsed before I saw the child, which was two miles distant from my house. I found the little sufferer crying incessantly with a rough croupy voice. It was restless, agonized with pain, and had occasional vomiting of a tough glairy mucus. The messenger who was dispatched for me having mentioned what had occurred, I had provided myself with magnesia, which was instantly, along with milk, poured into the child in large quantities. Castor oil was also administered freely. The pulse was rising rapidly, and was very small and thready. In order to anticipate the worst, leeches and a blister to the throat were applied without delay, but without any obvious relief. Demulcents of a mucilaginous kind were occasionally given and swallowed. When I left the house of my patient, at 2 A.M., the child seemed to sleep, but there was increased roughness in the respiration; mucous râle; pulse rapid, and small; bowels freely opened.

Next morning, at 9 A.M.—All the symptoms aggravated; heavy respiration; mucous râle; pulse 140, and thready. A consultation was now proposed by myself with my able and experienced friend Mr. Syme, of Alloa. We saw the child together about noon, and pronounced the case hopeless. No change in the treatment was deemed necessary. In the afternoon, about 4 P.M. patches of disorganized membrane were coughed up by the child. It died about 11 o'clock P.M., exactly

twenty-four hours after the sulphuric acid was administered.

No necrotomic inspection was allowed.

PRODUCTION OF THE VACCINE VIRUS.

To the Editor of the Medical Gazette.

SIR,

ON looking over the last volume of the Medico-Chirurgical Transactions, some observations on vaccination and small-pox, by Dr. Gregory, attracted my attention. It appears from those observations that he believes the vaccine virus may be produced in the cow in four or five modes. After speaking of its spontaneous origin, and its spread by contagion, he remarks:—"The same morbid secretion, possessed of the same qualities, may be, and frequently has been, generated in the teats of the cow, by the application to them of the matter formed by the heel of the horse when affected with the disorder called by farriers the *grease*."

This is a very important and interesting statement, if it be correct; but before its truth can be admitted, sufficient evidence ought to be adduced to substantiate it. There ought, at least, to be on record two or three well-authenticated cases of the *grease* in the horse having actually generated the vaccine disease in the cow. Great care should also be taken in the examination of these cases, since even the acute and penetrating genius of Jenner did not preserve him from error in the outset of his inquiries, mistaking, as he did, the *grease*, which is a local affection of the heel of the horse, for variolæ equinæ, which affects the general surface, but manifests itself principally in parts comparatively destitute of hair, as the inside of the thighs and the flexure of the heel*. That he subsequently held more correct views would appear from some of his remarks given in Baron's Life of Jenner, vol. i. p. 242, in which he speaks of the specific fluid as arising

* Hence arose the many fruitless and disappointing efforts to procure a protecting lymph from the *grease*; the true reason of which is thus accurately noted by De Carro:—"Parceque, comme l'observe le docteur Kahlert, ils n'avoient pas distingué dans leurs essais le vrai équin fébrile et constitutionnel des autres affections locale du talon du cheval."—*Almanach de Carlsbad*, 1833, p. 167.

from an eruptive vesicular disease in the horse, not confined to the heels, and does not mention the word grease at all.

His biographer, Dr. Baron, fell into the same error, which he afterwards acknowledged, and took great pains to correct, as may be seen by referring to his *Life of Jenner*, vol. ii. p. 225; and again in the *Appendix*, p. 456; in the *British and Foreign Medical Review*, No. xiii. p. 296; and lastly, in the *Vaccination Report*, p. 16, where the following sentences occur:—

“It was known that a disease from the horse was sometimes communicated to the cow, by men employed in dressing the heels of the one and afterwards milking the other. This disease was supposed to be what is vulgarly called *the grease*, and was imagined by Dr. Jenner, in the outset of his inquiry, to be the origin of small-pox. This idea he lived to correct.”

In the *Appendix* and in the *Review* he thus writes:—“I take this opportunity of expressing my regret that I have employed the word *grease* in alluding to the disease in the horse. *Variolæ equinæ* is the proper designation. It has no necessary connexion with the grease, though the disorders frequently co-exist. This circumstance at first misled Dr. Jenner, and it has caused much misapprehension and confusion.”

I cannot think that a writer so well informed on the whole subject as Dr. Gregory evidently is, could be ignorant of these facts, still less can I suspect him of trying to found an argument upon a mistake which had been confessed and rectified; and I am led, therefore, to conclude that evidence on this subject exists which has escaped my notice. I should feel obliged to any gentleman who would do me the favour to inform me where the cases which verify the above statement can be found, for I am curious to see the evidence which could lead Dr. Gregory to treat as an acknowledged truth that which I had long regarded as an unfortunate error. The determination of the truth on this point has a most critical bearing on the question of the identity of small-pox and cow-pox; for, of the five modes of producing the disease in the cow, enumerated by Dr. Gregory, this is the only one which casts a doubt upon their absolute iden-

tity; and if it can be established that the *grease* actually produces cow-pock it will very materially strengthen the views of their distinct nature, which Dr. Gregory so perseveringly advocates. I wish Mr. Ceeley (whose extensive investigations and great personal experience render him an authority that may be referred to) would inform the profession whether, either in reading or by observation, he has ever met with instances which tend to support the statement which I have ventured to comment upon, and of the truth of which I take the liberty to doubt.

I am, sir,

Your obedient servant,

HENRY COLES.

Cheltenham, Oct. 18, 1841.

ANALYSES AND NOTICES OF BOOKS.

“L'Auteur se tue à allonger ce que le lecteur se tue à abrégé.”—D'ALEMBERT.

A Concise and Practical Treatise on the Diseases of the Air-passages, Lungs, and Pleura. By ALFRED CATHERWOOD, M.D. &c.

WE were not aware that a treatise of this nature had “long been considered a great desideratum,” having believed that, through the medium of the works of Drs. Latham, Hope, Stokes, Williams, Forbes, and many others (not to mention the yet more numerous writings of French authors), a knowledge of the diseases of the chest was far more easily attainable than that of any other organs in the body. For the use of the profession, therefore, we doubt whether the present work was needed. But probably it was not intended for them; for it was the author's design to render it accessible to the public. “I have endeavoured,” he says, “in every instance, to adapt the language to the comprehension of the non-medical reader,” and, although he has succeeded so ill in his endeavour that we could never, of ourselves, have discovered that he had exerted himself in it, yet the design must have been a nearly insuperable obstacle to the production of any thing instructive to his brethren. Utterly ignorant as the public are of the lowest parts of medicine, it is barely possible that any thing on diseases of the lungs should be at once intelligible

to them, and new or important to the profession; certainly that which is thus barely possible has not been accomplished in the work before us.

It does not contain so much of information as the student will receive in his medical lectures, attend whom he may; far less is it equal in value to any of the writings of those whose names we have already mentioned. Nor are its faults merely negative; it is always superficial, and often obscure. What is worse, it is very pedantic. For example, the author (in the midst of his endeavour to make himself intelligible to the public) quotes Dr. Vogt's opinion that the sulphate of copper, as an emetic, does not act more powerfully than the sulphate of zinc, and yet is more likely to produce injurious effects; and this he has actually printed in German, without subjoining a translation. On the same page he exhibits his knowledge of Italian, and quotes, from Dr. Tozzetti (in Italian), the most ordinary fact that travellers in parts of India have found the inhabitants mixing assafoetida with their food, because they believe it a cordial and good for digestion; and so on. And this absurdity is frequently repeated; so frequently, and in such a manner, as to make us suspect the Doctor knows but little of any of the languages he quotes.

What we have said is sufficient to give a clue to the real design of the work. It is one of a class, now too common, which are composed, not to instruct, but to attract and astonish the public; in this it is very likely to succeed, but the author must not expect to reap the fruits of his success, without gathering, at the same time, the dispraise of his professional brethren. And what we thus say to him we shall be prepared to say to all of the same class.

Researches into the Physical History of Mankind. By J. C. PRICHARD, M.D. F.R.S. &c. Vol. III. Part I, pp 507. London, 1841.

THE present part of this work contains a portion of the *Researches into the Ethnography of Europe and Asia*. The best praise that we can give it (and it is not so much as it merits), is that it fully maintains the reputation which its author has already earned in this

rarely-trodden and most difficult field of physiology. The amount of learning, its variety and richness, the industry and cool judgment, that are brought to bear on the one subject of the work, are really astonishing; we know no book, by any member of our profession in any time, which can, in all these regards at once, be compared with it. It does not admit of an analysis; for itself contains, in their simplest forms, all that is genuine and excellent in a thousand stores of knowledge. The art of medicine may be proud that Dr. Prichard practises it; though it may regret that its pursuit is so rarely favoured with even a small measure of the energy and intellect which he bestows upon his studies.

The Diseases of Children, their Symptoms and Treatment. By G. A. REES, M.R.C.S. &c. 12mo. pp. 300.

THE author, who is surgeon to the General Dispensary for the Diseases of Children, has endeavoured to offer to the medical student and the junior practitioner a better description, in a concise form, of the diseases of children, than has hitherto existed; and his endeavour is, on the whole, successful. The descriptions of the diseases are clear, and generally correct, though very brief; for a moderately extensive nosology is gone through, with the due order of symptoms, diagnosis, morbid anatomy, and treatment, in 300 small pages. The work may, therefore, serve well for a text-book, to which in the early part of his practice a man may safely refer for a general sketch of that which he must look for in this class of diseases, and of that which is indicated by what he sees.

The second object of the author "that of raising the study of the diseases of children higher in the scale of medical science," is not, by a great distance, so nearly attained. There are, no doubt, many practitioners who both think and talk upon the subject very loosely; but this is not because there have hitherto been no means by which they might have improved their knowledge; there are already many works, especially in the form of monographs, in which the diseases of children are treated of very admirably, and in a tone of science much higher than that which is adopted in the present

treatise. Indeed, considering the extensive experience which the author says he has enjoyed, there is occasion for no slight surprise that the amount of original observation should seem so small.

However, the first object, and that which the author has satisfactorily attained, is a good one. The book, as far as it goes, is complete; no subject is omitted, though all are but lightly touched. The whole has the aspect of having been carefully and judiciously compiled in the form of notes, from the best authors. It is just such a work as a practitioner, with sufficient field for observation to enable him to appreciate the value of others' writings, would desire to make for himself a general foundation on which he might afterwards build for whatever purpose he pleased. For such a foundation we hope the author will use his present knowledge; he is well fitted now for the minuter and more original investigation of any one of the several subjects he has hitherto generally studied; and since he has done his best to place others on the same level of competency with himself, he is justly entitled to both praise and patronage.

Principles of General and Comparative Physiology, intended as an Introduction to the study of Human Physiology, and as a guide to the philosophical pursuit of natural history. By W. B. CARPENTER, M.D. Lecturer on Physiology in the Bristol Medical School, &c. Second edition. Churchill, 1841. 8vo. pp. 577, with plates.

THE high character of the first edition of this work was universally acknowledged by all the professional critics of this country: it was warmly eulogised by other physiological writers, and was quoted as a safe and very useful guide for students by physiological lecturers of established judgment. The present edition offers still stronger claims to favourable notice than its predecessor; for it brings us quite up to the physiological knowledge of the day, by many important additions, and some alterations which the rapid progress in this department of science rendered necessary. We allude, especially, to those parts of the work which relate to the origin and formation of tissues, a subject on which so much valuable infor-

mation has been recently given by the researches of Schwann, Schleiden, &c.; and also to the history of the early processes of animal development, which the talent and unwearied research of Dr. Martin Barry have so materially improved. The whole section on animal reproduction has been rewritten, and now includes many interesting facts and illustrations from Professor Owen's lectures at the College of Surgeons. The extended comparison, too, into which Dr. Carpenter has been led, between the processes of reproduction, as performed by different classes of organized beings, has afforded him the opportunity, of which he has ably availed himself, of offering many original and ingenious remarks upon this always interesting, and generally perplexing, branch of study. Our inclination, as well as the particular duties we have to perform, have led us to devote much time and labour to the study of the best recent authorities, both foreign and English, on the general subject of reproduction. We have even read, and re-read, all that Burdach, one certainly of the greatest authorities, has said upon the subject; and upon comparing the general style and manner of the talented and laborious German writer with that of Dr. Carpenter, we have no hesitation in saying that the student will derive more explicit information from the latter writer, in a tenth part of the time, than the perusal of the former would require. Without indeed any exaggerated compliment to Dr. Carpenter, we must say that we know of no author of modern date who excels him in clearness of description and a general happiness of style. On the one hand, he never falls into the too common error of overloading a topic by an unnecessary accumulation of evidence; while, on the other, his condensed brevity is never carried to such an extent as to leave his meaning doubtful. These are qualities which must render his work a favourite book of reference for professional students, or for the general inquirer who wishes to become acquainted with the principles of human and comparative physiology. We have given a general sketch of the arrangement and contents of the work upon a former occasion*; in these respects the present edition remains un-

* MED. GAZETTE, Feb. 2, 1839.

altered, with the exception of the additions and emendations to which we have referred. A detailed analysis of a work which is itself an analysis, it would be impossible for us to enter into. We would venture to suggest to Dr. Carpenter that there is one point of physiology which is not very clear to students in general, and unfortunately the best authorities differ upon the subject. We allude to the original formation and development of the amnion. Upon this subject we think Dr. Carpenter might enlarge with advantage. The numerous plates prefixed to the work are of great assistance to the reader. They render many subjects perfectly intelligible, which, from their nature, must remain more or less perplexing, in spite even of Dr. Carpenter's lucid descriptions.

We have great pleasure in informing our readers that Dr. Carpenter announces for publication another work on the "Principles of Human Physiology." We cannot but anticipate from his pen a valuable addition to our literary list.

MEDICAL GAZETTE.

Friday, October 22, 1841.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

SALE OF FOREIGN DIPLOMAS.

WE beg to call the attention of our readers to the following advertisement in the *Times* of the 14th instant:—

"*Foreign Medical Association.*—The object of this Association is to assist in counteracting the abuses of the medical schools of this country, in so far as it confers degrees in medicine, from a celebrated Continental University, on any person who holds a regular diploma or license of practice from any College of Surgeons, Society of Apothecaries, or chartered medical school, in Great Britain and Ireland, without additional examination or trouble. All communications to the Association may be directed, pre-paid, to"—, a person described as the secretary, whose name and address, that we may in no measure

aid in forwarding the scheme, we shall not give.

Now we doubt whether, in all the long annals of advertising assurance, the impudence of this can be surpassed, in which a man, calling himself an association, announces that he is ready to be the agent for the most gross and fraudulent purpose to which the privileges of the most contemptible university can be applied, and makes a virtue of his infamy by professing that he does it to counteract abuses. It is just as if a man were to call himself honest for stealing watches, because, if he did not do so, their owners might some day be overcharged for the repairs of them, when they were broken or worn out.

But it is of little use to expose or anathematise such impudence unless its effects can be cured or prevented; and, unhappily, in this case, there is no legal remedy for them. In this country, thanks to the impotence in which medical institutions are left, while they are abused for monopoly and oppression, there is not one among them all that can prevent a man, be he what he may, from deceiving the public, by calling himself doctor, and practising as a physician; nay, there is not one which can, over more than a few miles of the land, dispute his right to do these things, or deny the privilege which he has purchased for five pounds and no trouble. So that, in fact, a man can obtain a regular and undeniable diploma to be a physician, at less expense than he can get a license to sell beer, spirits, and tobacco; for this last requires that his morality should be attested by respectable neighbours, which for the first is altogether unnecessary.

There is, then, no legal remedy. Unless he invade the rights of the Apothecaries' Company, which a doctor can very easily avoid doing without inconvenience, a man thus dubbed

through his agent is really amenable to no law. But there is one punishment that may be applied, and that more pungent than a penalty—the punishment of ridicule; and this must be sharply administered. We cannot tell which of many that are thus degraded is this “celebrated continental university,” — whether it be Giessen (which we chiefly suspect) or Erlangen, — but it matters little: let the rule be, that any man who has obtained a diploma at any university which he has never visited, or at no greater expense than a thesis and a few pounds, be regarded and spoken of by his professional brethren as one thoroughly contemptible: let the true nature and value of his diploma be everywhere made known with the ridicule it deserves.

Such a punishment will never fall unjustly. It is a mistake to suppose that these diplomas are ever applied for by old practitioners, who having earned, in a long and honest life, a good reputation, desire, at the close of it, to glide into comparative ease, or into retirement, with the honourable title of Doctor. Of such men, the very few who feel pleased to be called by a new title are too proud to purchase it on such beggarly terms as these. The customers of these jobbing universities are men of a far different kind. Practitioners with too little talent to compete on equal terms, buy a title, as a publican might a handsome sign-post, to attract the passers-by, most of whom think there is some extra wisdom in a real doctor. Some, again, have the vanity to think themselves actually more respectable, because they bear, unworthily, a name and style like those of the best educated of our profession; and some seek for the distinction in order that in public print, as in discussion, reports, and so on, they may, by chance, be set down as unusually

worthy of respect. On such as these the punishment of ridicule and exposure will never fall either unjustly or too heavily.

Many motives more there may be which lead men to buy these disgraceful titles; we will not confess ourselves so foolish, or so dishonest, as to be able to guess them all; but it is very certain that they are all founded either on a desire to deceive the public into a notion of their possessor having more than ordinary competency to practise, or on personal vanity. The remedies, therefore, are in the hands of the profession; those who act on the first of these motives must be exposed to the public whom they desire to deceive: those who are guided by the second, must be ridiculed by their brethren whom, desiring to seem to excel, they deeply disgrace. For our own part we shall be always ready thus to aid in administering the law of professional justice; nor will we cease till a yet more powerful restraint is laid upon the evil by a law of statute or of charter.

SPIRIT OF MODERN SURGERY.

Now that the spirit of which we are to speak is somewhat less truculent than it has lately been, we may condemn it more thoroughly without fear of being deemed personal. It cannot be denied that the surgery of the last few years has been marked by more rashness than ever before disgraced it. There has been more of art and less of science, more of dexterity and less of judgment, more of zeal and less of discretion, more of action and imitation and less of deliberation, than in any period of the history of surgery to which we can refer.

To prove this let us adduce an example. Dieffenbach, by way of experiment (for the scientific induction in which the proceeding was said to be founded was too hollow to bear the

most superficial examination, and *could* not have led so reasonable a man as Dieffenbach has proved himself on other occasions to be, to undertake the operation)—by way of experiment, we say, determined to cut a large slice out of the middle of the tongue for the purpose of curing those who stammer. Long before the real result of the operation could be known, the news of its having been performed spread to France and England; and in both countries there were found surgeons who, without thought, (to speak most charitably), imitated the proceeding, and even claimed credit for their speedy adoption and recommendation of the supposed improvement.

But what has been the result of the invention and the imitation? Why, as far as we can learn, that not a patient has been cured; that three, confessedly, have been killed; and that one or more have lost the greater part of the tongue by sloughing. Now things like these might have been excusable if they had happened in the performance of an operation which long experience had proved to be, in general, successful; or in one which, though not tested by experience, had offered a reasonable prospect of success; but in a case where experience had not had time to give its decision, and where the probabilities, as calculated by many well capable of judging, were against success, they are utterly disgraceful; and, as signs of the times, they stamp the character of the surgery of the day with an indelible blot.

Nor can we say much more of all the other operations for the same disorder, multiplied and varied as they have been with a recklessness and want of calculation which would have been discreditable had the subjects been dogs instead of men. The division of the *genio-hyo-glossi* near their insertions seems to have been in some

cases successful, but the cases in which the operation is applicable have never been made out—have scarcely even been inquired into; and of all the other operative modes of treatment, we know not (so rapid, so confused, so premature, have been the published accounts of them) whether any one has done more good or harm.

Shall we, to show yet more plainly the spirit of our modern surgery, turn from this to any other subject like it cast untimely from the womb of rash experiment? Shall we look to the few months' history of the operation for squinting? to see how, before the first patient's wounds were yet healed, others were submitted to it; how, before the result, which of necessity required months that it might be safely seen, was yet nearly evident, hundreds more of experiments were tried; how, before the general issue of the plan was known, all who squinted were stopped in the street and almost kidnapped to have their *recti* cut; how men disputed who had first invented, who had first imported, the new plan, when the subject of their dispute might in plainer terms have been, who, on the least evidence of right, had dared to do the most; how, in the end, numbers have been found uncured, numbers damaged, and numbers cured, though no one knows exactly how or why they fared better than their neighbours; and how, at the present time, the real pathology of strabismus is as obscure as it was five years ago before a rectus had been severed. All this might be dwelt on, perhaps with profit, to show how the inventions of the surgery of the present day, though they may be sometimes beneficial, are so only as the remedies of quacks are, being founded only on vague surmises, and practised with rashness before experience has proved why or in what cases they are applicable.

All this is very different from the spirit in which Hunter, upon the strong foundation of sound anatomy and pathology, based his operation for aneurism. Even in that there was some experiment; but it was only to such an extent, and on such reasonable grounds, that a man might without unfairness even to himself be made the subject of it. Nor is it much less different from the spirit in which numbers of our immediate predecessors, Pott and Abernethy, Cline and Cooper, and of those who are yet among us, have worked and improved surgery. All these have gone on in the sure plan of investigating the outskirts before they have entered on the field of action; and the real progress of surgery only *seemed* slower in their hands than it is in those of the daring experimenters of the present day.

We know no certain remedy for the evil of rashness; those who act precipitately will hardly listen to the advice of the more cautious; for rashness is seldom dissociated from abundant vanity and self-confidence. This truth, however, may have some weight with them, namely that real honour is awarded not to art, but to science: witness the different reputations of Newton and the inventor of printing, of Hunter and the inventor of gunpowder. Just so will it be with surgery; the reputation of its mere artists will die before they are in their graves.

INFLUENCE OF POLITICS OVER MEDICAL APPOINTMENTS.

WE lately had occasion to give an illustration of the manner in which politics influence medical appointments, taken from the present and late Lord Chancellor's disposal of certain Commissionerships in Lunacy. Another example of the same principle is at present exciting some interest in the North. Certain considerations and arrangements induced Dr. Badham to resign the Professorship of Medicine in the University of Glasgow, and to

the chair thus vacated Dr. William Thomson, of Edinburgh, was appointed. This occurred just before the late administration was dissolved, and it appears that the event had not been notified to the Senatus Academicus, by which body alone it is maintained the resignation could be accepted, and the vacancy declared,—on which grounds the Rev. Principal of the University, who is a Tory, declines to admit the new Professor. But the awkward point is this, that if the vacancy be now declared, it is rather more than possible that Dr. William Thomson, who takes after his father, Dr. John Thomson, and is a staunch Whig, may not be the person selected to fill it! As the medical session commences November 1st, it is high time that this knotty point were decided.

MEDICAL ATTENDANCE ON POOR.

To the Editor of the Medical Gazette.

SIR,

I WAS not aware, until after my letter to you of the 7th had been published in the MEDICAL GAZETTE of the 15th, nor until the inclosed letter from Mr. Guthrie of the 16th instant reached me, that the President and Council of the Royal College of Surgeons had so entirely concurred with me in that line of conduct which, as it appeared to me, they ought to adopt for the protection of those gentlemen who may be hereafter employed in attendance on the parochial poor.

I am happy to find that the subject has been taken up in the spirit in which I advocated it three years ago, as may be seen in the Number of this GAZETTE for September 15, 1838, and carried through by Mr. Guthrie, the President, and by the other gentlemen who at present direct the affairs of the Royal College of Surgeons; not only on account of the positive good of this procedure, but as a proof that the vigilance and useful energy of the present men constitute the best guarantee for the removal of other disabilities (if any) which the members of that College, dispersed throughout the empire, may have just reason to lament, and which qualities form a favourable comparison with the apathetic management of its affairs, as noticed and unsparingly reprov'd by me, in 1813, in a postscript to "The Inquiry," &c.

I have requested and obtained Mr. Guthrie's permission to give publicity to his important communication, which I hope you will insert in your next number, and remain, sir,

Your obedient servant,

R. M. KERRISON, M.D. F.R.S. *
12, New Burlington Street,
October 18, 1841.

4, Berkeley Street, Oct. 16, 1841.

My dear Kerrison,—I have just read your paper in the *MED. GAZETTE*, in which you allude to the duty the President and Council of the Royal College of Surgeons ought to perform towards the members of that body who are employed by the different Boards of Guardians throughout the country to take care of the sick poor, in order to obtain for them a just and reasonable compensation for their labours; and recommending the formation of a committee to do that which you are not aware is already done.

The Poor Law Commissioners have willingly consented to recommend to the Secretary of State for the Home Department that no person shall be employed in charge of the sick poor who is not duly qualified to act as a physician and surgeon, or as a surgeon and apothecary, and they have acceded to their being paid in a fair and reasonable manner: the competition by tenders being abolished. They have also agreed to pay liberally for capital operations in surgery and for serious accidents; and I believe I may say they will allow half a guinea for every case of midwifery in which the assistance of a medical man is necessary, and two guineas for every case of really difficult labour, in which the attendance of the surgeon is protracted.

You may rely with confidence that the President and Council of the Royal College of Surgeons will do their duty towards their members, and that no grievance will long remain which it shall be in their power to have redressed.

I am, my dear Kerrison,

Yours ever,

G. J. GUTHRIE.

* I see that by the accidental transposition of one printed line in my last paper at the top of page 123, the sense of the paragraph has been obscured. The sentence was expressed in these words: "From the degradation in which it was merged by the practices of unqualified men, and to bring the heads of departments to, or, at least, to remind them of, a just sense of their duties to the public and to the general members of the profession."

R. M. K.

MEDICAL REFORM.

GENERAL MEETING OF THE NORTH OF ENGLAND MEDICAL ASSOCIATION.

ON Wednesday, the 13th instant, the members of this institution assembled in considerable numbers in the Exhibition Room, Sadler-street, Durham.

William Green, Esq., of that city, one of the vice-presidents, was called to the chair, (the president, Dr. Headlam, being detained in Newcastle by professional engagements). There were also present:—Drs. Fife, De Mey, Glover, Charlton, and Knott, and Messrs. Greenhow, Carter, Turner, Potter, and Brumell, of Newcastle; Dr. Trotter, and Messrs. Shaw, Oliver, Heppel, Hopton, and Dodd, of Durham; Mr. Green, of Houghton-le-Spring; Mr. Morrison, of Pelaw House; Mr. Shield, of Chester-le-Street; Mr. Steavenson, of Heighington; Mr. Jobson, of Bishop Auckland; Mr. Potts, of Richmond; Messrs. Watson, Dixon, and Gregory, of Sunderland; Dr. Nicholl, of Hetton, and many other gentlemen, whose names we could not ascertain.

Mr. C. T. Carter, of Newcastle, the Honorary Secretary of the Association, read the report of the council, from which we give some extracts:—

Within the last few months certain indications of a reforming spirit have been observed in some of the medical corporate bodies. The College of Physicians, of London, has begun the adoption of a more liberal policy than has hitherto marked its history. The exclusive privileges of the graduates of the English Universities have been abolished. The College has been thrown open to its members. The obnoxious appellation of "licentiate" has been abandoned, and a system of representative government introduced. Such changes are gratifying proofs of the progress of reform, and might afford a sufficient answer to those timid and desponding persons who find an excuse for their own apathy in representing the efforts of reformers as visionary and useless. The council give the College of Physicians credit for their late proceedings, although forced upon them by the influence of public opinion, and of wide-spread discontent in the profession; and when they find amongst those who have been assisting in the work the names of Kidd, Seymour, Latham, Watson, and Williams, they cannot but hope for still further concessions to the reasonable wishes of the professional community.

The College of Surgeons has yet made no declaration of its intentions, although rumour states that some internal movements are going on in that institution also; and the well-known liberality of a portion of those gentlemen

who are at this time members of its council, induces a belief that it cannot long remain in its present unsatisfactory condition. The most eminent of its council have publicly declared the necessity of amendment. The complaints of its members have been acknowledged to be well founded, and the defective working of this and other of the medical corporations has been fully exposed. What can be more absurd or more detrimental to the efficiency of the profession than that its members should emanate from a variety of institutions, each of which has power to make its own regulations irrespective of the rest—responsible only to itself! Institutions connected together by no common link, and too often engaged in unseemly competition, or actuated by feelings of jealousy towards each other: most of them endowed with power to grant degrees, diplomas, &c., and each having a direct pecuniary interest in the number of credentials dispensed by it, and in some of which the teacher officiates as the examiner of his own pupil!

It has been a just ground of complaint that the medical institutions of this country have disregarded the interests of their members—a circumstance which cannot excite surprise, when the irresponsible character of their governing bodies is considered. Neither have they taken proper steps to protect the public health, to supply the kingdom with a thoroughly-educated body of medical practitioners, or to guard the community against ignorance and fraud. They have hitherto, in fact, served the interests of a few, to the exclusion of the mass of those from whom their resources have been derived. A more liberal spirit seems of late to have actuated their councils. This may, in some measure, have been spontaneous with individual councillors, but has been still more the result of the agitation which has been occasioned by the dissatisfaction existing throughout the profession. To whatsoever cause attributable, it must be hailed as a favourable omen, and as a great encouragement to those members of the profession who are striving for its improvement.

But, as has been remarked in an essay attributed to the pen of Sir Benjamin Brodie, no self-reform of any corporation will be sufficient to accomplish what is demanded in the way of reformation. The councils of the corporations must be made responsible, not only to the members of the latter, but to some superior board or authority, under what name soever it may be designated. This opinion has been acquiesced in by the Colleges of Physicians of London and Edinburgh, and by the Colleges of Surgeons of Dublin and Edinburgh. The necessity of a superior board or council is admitted; but upon the mode of its construction there is, as might

indeed be expected, a considerable variety of opinions. Your council have always advocated a mixed form of government, so that whilst the council or board should connect the profession with, and render it a branch of, the general polity of the nation, it should also be representative of, and responsible to, the members of the profession, by whom its revenues must, in any case, be mainly supplied. They have been anxious to gather the sense of the association upon this point, and accordingly submitted to their perusal, some time ago, two outlines of plans, upon which their opinions will be taken before the termination of this meeting. They beg, in offering them, to repudiate once more the oft-repeated accusation that they are seeking to destroy the presently-existing medical institutions. On the contrary, they would render them constituent parts of one national system. Instead of curtailing their boundaries, they would extend and amplify them: they would give their members an interest in their prosperity and reputation, and render them more eminently conducive than they have hitherto been to the ends for which they were incorporated—at the same time that they would take measures for supplying those defects, and correcting those anomalies in the profession, which, from their nature and constitution, the corporate bodies are inadequate to control.

Some persons have despaired of ultimate success, because of the variety of opinions which have been broached in reference to the fulfilment of the latter objects. But these should by no means create discouragement. They originate in one common feeling of dissatisfaction; they show, that however men may differ as to the remedy, there is no doubt regarding the presence of an extensive disease. Each proposed plan of treatment contains suggestions, probably, which may at some time be of use in the reorganizing of the profession. The Council are anxious to consider every proposition that may be made, in the hope of gleanings information therefrom. Acting in conformity with this spirit, they have laid before the members the two outlines already mentioned; but, in doing so, they would be distinctly understood as not wishing to dictate upon the subject, or, by the production of these plans, to supersede the bringing forward of others. They wish merely to obtain some indication of the general feeling as to the outlines of a measure which would be acceptable to the majority, and have adopted this mode of arriving at that knowledge.

The plans coincide in several important points.

They mutually contemplate the possession of a license by all persons hereafter legally entering into practice, and the establishment of a uniform qualification throughout

each division of this empire, for all future candidates for such license; and a similar uniformity in the granting of degrees and titles in medicine and surgery.

They each provide for an authentic registry of all legally-authorized practitioners, with means for its publication, and a representative governing body for the whole profession.

According to plan No. 1, the examining and licensing board would be formed prior to, and would be distinct from, the governing body, except that vacancies occurring in it would be filled by that body. It would contain members appointed by the Crown.

The examining board, according to the second plan, would be under the control of, and responsible to, the general council.

The plans agree in dispossessing the Apothecaries' Company of the power now held by it of examining and licensing medical practitioners.

The council wish not to treat with disrespect, or to under-rate the services of, the Apothecaries' Company. Its present functions were not sought by it. They were thrust upon the Company by the culpable neglect of the College of Physicians and Surgeons. But is the Apothecaries' Company the source from which medical practitioners should emanate? Its charter was granted for the purpose of protecting the public from the practices of ignorant pretenders to medical knowledge. Has it fulfilled the terms of its charter in this respect? To a very small extent. The Company, it is said, is in possession of 1,200 names of persons practising without its license. Is it fitting that medical men should derive their authority to practise an honourable profession from a "City Guild and Trading Company?" And is it proper that the licensing power for the general practitioner should be held by a body which is not authorised to examine its licentiates either in surgery or midwifery?

The London corporations have declared that the public have divided the profession into physicians, surgeons, and apothecaries. They surely must be aware that if this division obtain even in the metropolis, it does so to a limited extent: unless, indeed, they identify the apothecary and the general practitioner, which would be most unjust, seeing that the latter partakes quite as much of the character of the two first-named classes as of the third. The public require a class of medical attendants who have been educated and examined in all departments of the healing art, and such a class not one of the London corporations is at present able to supply. Hence the necessity of a General Examining Board, and of a class of persons who shall be examined in all departments, before receiving a license to practise.

The council have been at much pains to

obviate an erroneous idea that the possession of a license to practise would abrogate in future all distinctions and grades in the profession. Divisions in labour there will ever be; and it is most desirable that different men should cultivate, more especially, particular departments of the healing art; and provided they do not mislead the public as to the relative qualifications of medical practitioners, and are not so conferred as to inflict injustice upon the latter, there can be no reasonable objection to the granting of degrees and honorary titles either in medicine or in surgery. These distinctive marks of pre-eminence each of the plans would leave in the hands of the existing universities and colleges, making provision only that the conditions whereupon they shall in future be conferred be rendered uniform throughout the three countries.

The Chairman observed, when Mr. Carter had concluded the reading of the Report, that it embodied all that was calculated to reform the abuses, elevate the character, and extend the usefulness of the medical profession.

Mr. Septimus Green, of Houghton, moved the adoption of the Report.

Mr. Dixon seconded the motion, and it was unanimously adopted.

LIGATURE OF SUBCLAVIAN ARTERY

FOR THE CURE OF AXILLARY ANEURISM
CAUSED BY GUN-SHOT WOUNDS.

By JOSIAH C. NOTT, M.D. Mobile, Alabama.

THE following case contains several practical facts of some value, and may not be uninteresting to surgeons who are called upon to operate for aneurism.

The subject, Mr. Christopher L. Clausel, æt. 30, is a very respectable gentleman, of good constitution and good habits, of Claiborne, Alabama. On the 27th of August, 1838, while hunting, he was holding his gun (charged with small shot) by the muzzle; the gun went off accidentally, and the whole load, after passing through the wrist, lodged in the axilla; considerable hæmorrhage ensued, both from the wrist and axilla. Dr. Watkins, who was in attendance, found it necessary to amputate the arm above the wrist, three hours after the accident; no artery required ligature, and this fact, with the hæmorrhage from the axilla, induced the belief that the axillary artery was injured by the shot.

A slough formed in the axilla, which commenced separating in four or five days. On the twelfth day a hæmorrhage occurred from the axilla, and about a quart of blood was lost; it was commanded by compress on the

wound. On the next day a hæmorrhage again occurred to about the same extent. On the sixteenth day a third and most alarming hæmorrhage took place, completely exhausting the patient; a compress was again applied, and the hæmorrhage did not return.

On the eighteenth day the slough separated, leaving a cavity as large as an egg, and exposing the ribs; the artery could neither be seen nor felt; the healing process soon commenced, went on rapidly, and by the middle of October it was filled up, leaving only a narrow ulcer an inch long. About this time the aneurismal tumor commenced in the axilla, and increased rapidly.

Mr. C. came down to Mobile to consult me, and I saw him for the first time on the 3d of November. On examination I found a large aneurism, filling up the axilla, and extending nearly to the clavicle; pulsations strong, and aneurismal thrill distinct. I advised tying the subclavian artery above the clavicle, and performed the operation on the 27th of November, in the presence of Drs. Fearn, Woodcock, and Crawford. No difficulty occurred during or after the operation, and every thing went on favourably. On the twenty-sixth day after the operation, the ligature still remaining firm, I attached to the end of it a gum-elastic thread, laid a small compress on the clavicle, drew the thread over this, and fixed it to the chest by an adhesive strip; it was thus made to exert a constant and gentle force upon the ligature. On the thirty-first day the ligature came away, and had it not been for this contrivance it would probably have remained a considerable time longer; although the ligature was tied so tight around the artery that I could scarcely pass an ordinary sized pin through the loop after it came away.

At the end of forty days the patient returned home with the wound healed, the tumor much diminished, but the pulsation, which returned two days after the operation, was still strong, and *purrr* distinct.

I saw the patient five months after the operation, and though diminished, there was still so much pulsation in the aneurism, and the *purrr* so distinct, as to alarm the patient.

I lost sight of the patient until April, 1841, more than two years after the operation, when I had the gratification to see him perfectly well in every respect.

REMARKS.—This case proves that the return of pulsation, though strong, and continuing for months, is not necessarily a cause of just alarm. The use of the gum-elastic thread to facilitate the removal of the ligature after a reasonable time is allowed, I think is also important; for the ligature keeps the wound suppurating, and there is always danger of the pus burrowing into parts where it would do mischief. There is

a case recorded in the *Medico-Chirurgical Review*, where the ligature remained eighty days.—*American Journal of the Medical Sciences*.

ANNUAL EXAMINATION
OF THE
CANDIDATES FOR THE BOTANICAL
PRIZES,
GIVEN BY THE COMPANY OF APOTHECARIES.

Examination paper, October 13th, 1841.

Hours from 10 A.M. till 6 P.M.

1. Illustrate, by examples from the vegetable kingdom, the following aphorism of Linnæus:—

“Minimis partibus, per totum Naturæ campum, certitudo omnis innititur; quas qui fugit, pariter Naturam fugit.”

2. Describe the structure of the pollen-granule, and of the sporule of ferns.

3. Describe the various modifications of veneration, and show their importance in specific, generic and ordinal distinctions.

4. Give examples of the various kinds of buds, and state their functions.

5. How is the ovule developed in *Santalum*, *Loranthus*, and *Viscum*?

6. What are the conditions necessary for the germination of a seed, and the chemical and physical phenomena accompanying that process?

7. Describe the mode of growth of *Exogens*, *Endogens*, and *Acrogens*.

8. Define the following terms:—*scutatus*, *umbonatus*, *carinatus*, *canaliculatus*, *campulatus*, *urceolatus*, *turgidis*, *inflatus*, *ventricosus*, *panduræformis*, *lyratus*, *runcinatus*.

9. What are the structure and uses of the pith? Is pith found in monocotyledonous plants?

10. Is there any theory that will satisfactorily account for vegetable irritability without attributing to plants volition or sensation?

11. State any exceptions to the general rule, that plants exhibit a corresponding agreement in structure, and medicinal or chemical properties.

12. At what period are the secretions of herbaceous plants in the greatest perfection?

13. Give examples in proof of the theory of floral organs being modifications of leaves.

14. Give the essential characters of the following groups and alliances in polypetalous plants:—

ALBUMINOSÆ.—Ranales. Umbellales.

EPIGYNOSÆ.—Cucurbitales.

SYNCARPOSÆ.—Euphorbiales.

GYNBASEOSÆ.—Rutales.

APOCARPOSÆ.—Rosales.

15. Give the essential characters of the following natural orders, and state their most important medical products:—*Lobe-*

liaceæ. Cinchonaceæ. Compositæ. Solanaceæ. Apocynaceæ.

16. Describe fully in Latin the plants numbered 1 to 4, and state their probable sensible properties.

[The plants were—*Aster punicens*. *Thymus diffusus*. *Encomis punctata*. *Tofieldia americana*.]

N. B. WARD.

STUDY OF INSANITY.

To the Editor of the Medical Gazette.

SIR,

I AM directed to inform you that the first annual meeting of the "Association of Medical Officers of Hospitals for the Insane" will be held at the Nottingham Asylum on Thursday, the 4th of November next. The chair to be taken at one o'clock P.M.

I am directed to add that the committee of the said Asylum having read the resolutions of the meeting held at Gloucester, and in reply to the application of Mr. Powell, the resident medical officer, to permit the meeting to be held at the Nottingham Asylum—

Resolved—"That the governors of this institution, approving of the objects of the Association, willingly comply with Mr. Powell's request."—I have the honour to be, sir,

Your obedient servant,

S. HITCH, Sec. *pro tem*.

Gloucester, October 6, 1841.

N.B.—The first business of this meeting will be to consider the resolutions of the meeting held at Gloucester; next, to frame rules and regulations for the future government of the Association; and, finally, to pursue the objects of the Association.

RECEIVED FOR REVIEW.

Pathology, founded on the Natural System of Anatomy and Physiology. By Alex. Walker.

Mr. G. A. Rees on the Diseases of Children.

Mr. Nunneley's Treatise on the Nature, Causes, and Treatment of Erysipelas.

Dr. John Hughes Bennett's Treatise on the Oleum Jecoris Aselli, or Cod Liver Oil.

Mr. J. Annesley's Researches into the Causes, Nature, and Treatment of the more Prevalent Diseases of India, and Warm Climates generally. 3d Edition.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, September 23, 1841.

E. Bayley, Cheswardine.—J. T. Keal, Oakham, Rutland.—W. Connor, London.—R. G. Atkinson, Earswick.—J. Machill, Batley Carr, York.—M. N. Bower, London.—R. Purdie, Edinburgh.

Thursday, September 30.

W. L. Nash, Leatherhead.—R. R. Perry.—J. T. N. Lipscomb, St. Alban's, Herts.—E. D'Auvergne, Guernsey.—J. F. Knighton, Dawlish, Devon.—J. Deighton, Cambridgeshire.—J. Steel, Edinburgh.—N. H. Clifton, Islington.

TABLE OF MORTALITY FOR THE METROPOLIS.

Shewing the Number of Deaths from all Causes registered in the Week, ending Saturday, the 9th Oct. 1841.

Small Pox	4
Measles	30
Scarlatina	14
Hooping Cough	45
Croup	8
Thrush	6
Diarrhœa	16
Dysentery	2
Cholera	1
Influenza	2
Typhus	16
Erysipelas	3
Syphilis	1
Hydrophobia	0
Diseases of the Brain, Nerves, and Senses ..	126
Diseases of the Lungs, and other Organs of Respiration	245
Diseases of the Heart and Blood-vessels	17
Diseases of the Stomach, Liver, and other Organs of Digestion	82
Diseases of the Kidneys, &c.	3
Childbed	1
Ovarian Dropsy	0
Diseases of Uterus, &c.	3
Rheumatism	4
Diseases of Joints, &c.	0
Ulcer	1
Fistula	0
Diseases of Skin, &c.	0
Diseases of Uncertain Seat	106
Old Age or Natural Decay	48
Deaths by Violence, Privation, or Intemperance	25
Causes not specified	7
Deaths from all Causes	816

METEOROLOGICAL JOURNAL.

*Kept at EDMONTON, Latitude 51° 37' 32" N.
Longitude 6° 3' 51" W. of Greenwich.*

September.	THERMOMETER.		BAROMETER.	
Wednesday 13	from 41 to 54		29.76 to 29.85	
Thursday . 14	46 68		28.75 29.68	
Friday . . 15	49 58		29.43 29.68	
Saturday . 16	40 57		29.44 29.32	
Sunday . . 17	42 58		29.45 29.39	
Monday . . 18	47 53		29.50 29.30	
Tuesday . 19	43 54		29.43 29.86	

Prevailing wind, S.W.

On the 13th, morning clear; otherwise overcast, with frequent rain. The 14th, generally clear. The 15th, morning cloudy, with heavy rain; afternoon and evening clear; a heavy shower of rain at 5 P.M. The 16th, morning and afternoon overcast; raining from about 4 A.M. till 3 P.M.; evening clear. The 17th, morning cloudy, otherwise generally clear; rain fell between 6 and 7 P.M. The 18th, generally clear. The 19th, morning overcast, with heavy rain; otherwise clear.

Rain fallen, 1 inch and 605 of an inch, of which 61 hundredths fell during the morning of the 19th.

CHARLES HENRY ADAMS.

WILSON & OGILVY, 57, Skinner Street, London.

THE LONDON MEDICAL GAZETTE,

BEING A
WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

FRIDAY, OCTOBER 29, 1841.

LECTURES
ON THE
PRINCIPLES AND PRACTICE OF
PHYSIC,

Delivered at King's College, London,

BY DR. WATSON.

Pleurisy. Its anatomical characters; false membranes; liquid effusion; effects of these upon the shape and contents of the chest, and upon its healthy sounds. Symptoms of Pleurisy.

I PROCEED this afternoon to the subject of *pleurisy*; having in the last lecture concluded what I had to say on that of *pneumonia*: that is, I pass from inflammation of the *substance* of the lung, to inflammation of its *investing membrane*. The two frequently exist together: but when that is the case, the one predominates greatly over the other. *Pleurisy*, however, without *pneumonia*, is much more common than *pneumonia* without *pleurisy*. When both are present, and the *pneumonia* predominates, the term *pleuro-pneumonia* is applied to the compound disease. The whole interest of such a case merges in the *pneumonic inflammation*. Again, when both are present, and the *pleurisy* predominates, the compound affection is sometimes called *pneumo-pleuritis*.

The *pleura*, as you know, is one of the serous membranes. Its inflammation is attended therefore with those *events* which I formerly took some pains to describe as belonging especially to that particular tissue. The inflammation is of the adhesive kind: it is accompanied by pain; by the pouring out of serum, of coagulable lymph, of pus, or of blood. I think it will be best, in this instance also, to lay before you some account of the morbid anatomy of the disease, before I consider its symptoms.

Anatomical characters.—The alterations

that take place in the inflamed membrane itself are not very striking or important. Experiments upon living animals, made by introducing some foreign substance, or injecting some slightly irritating liquid, into the cavity of the *pleura*, have proved that, as in other cases, inflammation is attended with *redness* of the part affected. But it is scarcely ever that we observe this effect *alone* of inflammation, in the *pleura* of a dead person; unless, indeed, he has died of some other complaint while he happened to have *incipient pleurisy*. The *pleura* has been said to be thickened by inflammation; but that I apprehend to be a mistake. It often *appears* to be thickened, in consequence of the superposition of a false membrane—a layer, or several layers, of plastic lymph. But actual thickening of the *pleura* itself seldom or never happens. Neither does the *pleura* easily soften, or readily ulcerate, under inflammation. It peels off, in some cases, from the lung, or from the ribs, with more facility than in the sound state.

The most remarkable effects of *pleurisy* result from the effusion of coagulable lymph, or of serous liquid, or of both, into a shut sac, having peculiar anatomical relations. One part of the membrane lines the firm walls of the chest: the other part envelopes the soft and compressible lung. The opposed surfaces of this closed and empty bag being *apposed* also, but freely moveable one upon the other, very different, and even contrary, effects may be produced by its inflammation. The pulmonary *pleura* may be glued to the costal *pleura*, so as to prevent all lateral movement between them, and to obliterate the pleural cavity: or the two surfaces of the membrane which are naturally in contact, may be forced unnaturally apart by a pouring forth of serum between them: or the opposite surfaces of the *pleuræ* may be united by coagulable lymph in some places, and separated by effused fluid in others. And great differences will arise in the symptoms,

and in the gravity and tendency of the complaint, according as one or another of these different conditions of the contents of the thorax is established.

False membranes.—Let us first consider the effect of the throwing out of coagulable lymph only; or, of what comes to the same thing, the effusion of coagulable lymph with a small quantity of serum, which last is soon reabsorbed.

One consequence of this is the formation of false membranes. These, indeed, are formed whether there be much or little serum poured out. We continually meet with them, sometimes when we least expect to do so, in the dead body. They vary greatly, in different cases, in respect to their thickness, situation, extent, organization, and effects.

When the lymph is first deposited upon the free surface of the inflamed pleura, it is soft, and of a greyish white colour, like paste somewhat. It soon, however, acquires an increase of consistence, and shows marks of vitality; becomes, in short, organized. Red points begin to appear in it, few in number and widely separated at first; but they presently multiply, and lengthen into reddish streaks, which run along the surface of the effused matter. Soon these red streaks may be perceived to be slender vascular canals; and at length they inosculate with the vessels of the pleura, and the lymph, converted into a false membrane, becomes a constituent part of the living frame.

It is curious, and useful too, to know how rapidly this work of organization may go on.

Andral made experiments upon the pleuræ of rabbits, by injecting acetic acid into their cavities. He sometimes found, at the end of nineteen hours, soft and thin false membranes, traversed by numerous anastomosing red lines. In other rabbits, placed under circumstances which appeared to be exactly similar, no such result had taken place at the end of a much longer period; but the pleura contained only a serous or puriform liquid, mixed with unorganized flakes of lymph. Now similar differences have been remarked in the human subject, under disease. False membranes, already vascular, have been found in the bodies of persons who died of pleurisy after a very few days' illness: while in other patients, who had lived for many months after the invasion of the disease, there has been no trace of such vascular membranes. It is clear, therefore, that the organization of the lymph does not depend solely upon the length of time that has elapsed from the period at which it was poured forth. It has much more to do with the previous state and habit of the patient.

Cæteris paribus, plastic lymph and early adhesion are more to be expected in young, strong, and healthy persons; curdy unor-

ganized lymph, granular deposits, with copious and abiding serous effusion tending to become puriform, in such as are old, feeble, cachectic, and scrofulous.

The extent of these false membranes varies, according to the extent of the inflammation that has produced them. When that has been general, they cover the whole lung, and line the whole costal surface, and spread themselves over the diaphragm and mediastinum of the same side. Supposing that there is no serous liquid effused, or that it is absorbed, the lung then becomes everywhere adherent to the sides of the cavity which contains it. The medium of adhesion, which is soft and tender while it is recent, grows firm, and assumes the characters of cellular tissue, when the union is of old standing.

The thickness of the false membranes is also extremely variable. Sometimes it is not more than that of the pleura itself, and might then, in the absence of adhesion, be almost overlooked. But in the majority of cases their thickness is much greater than this. Frequently several distinct layers or strata are seen, superposed on one another, to a considerable depth.

Are there any auscultatory signs of this process of adhesion, when it occurs? Yes. There is a morbid sound, not hitherto mentioned by me, whereby it is sometimes disclosed: the sound, namely, of *friction*; the sound produced by the rubbing together of the dry, or inflamed and roughened surfaces. You doubtless are aware that every time a tolerably deep inspiration takes place, the relation between the ribs and the lung undergoes a change. While the ribs are elevated, the lung descends a little: and consequently any given point of the surface of the lung is no longer in contact with the same point as before of the thoracic parietes. You may convince yourselves of this fact by carefully making a small incision through an intercostal space, in a living animal. Now the pulmonary pleura, when that membrane is inflamed, does not slip and glide over the costal in its usual smooth and noiseless manner; but it makes a creaking or rubbing sound, which the ear, applied to the corresponding surface of the chest, readily catches. I have many times heard this; yet it is not at all a common sound: indeed I had heard it, in one instance, some time before I knew what the noise meant. You may wonder, as adhesions are so common, that it is not oftener heard. In truth, it is a transitory phenomenon, and ceases, of necessity, as soon as adhesion prevents any farther motion of the opposed pleuræ upon each other. If we do not happen to listen during that period, usually a short one, in which the pleuræ, roughened by inflammation and effused lymph, but not separated by liquid,

still chafe against each other, we lose the opportunity of hearing the sound at all. This *rubbing* sound, this noise of *friction*, we shall find to be of greater importance in relation to certain diseases of the heart, than in cases of pleurisy. In pleurisy the *liquid* matters poured into the membranous sac have far more interesting consequences: and to these I now beg your attention.

Effusion of fluid.—In some instances we find, after death, a clear, serous, or watery fluid, without colour, or of a pale lemon colour, and perfectly limpid and transparent. This may occur independently of inflammation of the pleura; from some mechanical obstacle to the circulation. It then constitutes a species of dropsy; a true *hydrothorax*: and this, though less common than ascites, is by no means an uncommon consequence of disease of the heart. When the effusion does not proceed from a cause of that kind, it is always, probably, the result of inflammation of the pleura itself, although we may find only a slight degree of redness upon its surface, or a few patches of coagulable lymph. More frequently, besides this clear liquid, with flakes of albuminous matter floating in it, there is also a coating of lymph on the inflamed membrane. Very often the thinner fluid is turbid, or whitish, like whey; sometimes it is distinctly puriform; sometimes it is tinged more or less deeply with blood; sometimes it consists of nothing else but blood, which has separated into serum and crassamentum. There being no wound, or rupture, of large or of small vessels, we conclude, in such cases, that the blood has exuded, or been *exhaled*, from the membrane.

The different kinds of fluid effused into the pleuræ are always, or almost always, without smell;—provided that it has remained a closed bag: I mean when no communication has been established between the cavity of the pleura and the external air, either through an opening in the walls of the chest, or through a pulmonary fistula leading to the trachea, or through some breach in the œsophagus. I have met with but one exception, and that a doubtful one, to this rule. A patient died in the hospital, who, some years before, had nearly killed himself by swallowing, in mistake for beer, a solution of caustic potass. The result of this had been ulceration, and subsequently stricture, of the gullet. His left pleura was perfectly full of most stinking pus; and we were unable to detect any channel of communication with the outward air, although the circumstances of the case rendered it not improbable that such a channel might have existed.

Sometimes air, or gas, is found in the cavity of the inflamed pleura; either alone, or (what is much more common) together with a liquid. We ascertain this fact, in the dead body, by the hissing sound that takes

place as soon as a penetrating incision is made between the ribs; or by opening the thorax under water, and noticing the escape of air in the form of bubbles. It is probable that these gases are sometimes secreted or exhaled from the diseased membrane; sometimes they are the product of decomposition within the cavity; but, for the most part, they are met with only when the sac of the pleura communicates somehow with the external air.

Effects of the effusion of liquid.—Such being the fluid matters that frequently occupy the cavity of the pleura when that membrane has undergone inflammation, let us next examine the necessary effects of their being collected in that part. These effects will obviously vary considerably according to the quantity of the fluid that accumulates.

Now the quantity of fluid may vary from less than an ounce to several pints. At first it is lodged in the cavity of the pleura solely at the expense of the yielding lung, which is compressed to make room for it. But if the quantity continues to augment, other parts are at length displaced by the increasing pressure, the boundaries of the chest on that side are stretched, and even the abdominal viscera are thrust out of their natural position. The lung is pushed back towards the mediastinum and vertebral column, and flattened, and brought to lie in the smallest possible compass; the diaphragm is forced downwards, and sometimes gives rise to a considerable prominence of one or the other hypochondrium, the spleen and stomach being displaced on the left side, or the liver on the right. The ribs are separated too; the intercostal spaces become wider, and are pushed out to the level of the bones, and the whole of the affected side is smooth and obviously larger than the other. The mediastinum also undergoes some change of position, being driven more or less towards the side opposite to that on which the effusion exists. If the liquid happens to occupy and distend the left side of the thorax, the heart may be moved out of its natural place, and be heard, and felt, and seen to beat on the right of the sternum. Andral mentions having met with only one instance of that kind. I suppose that I cannot have witnessed less than a dozen such. So again the heart may be carried beyond its proper place, to the left, by a large effusion into the right pleural cavity.

I say when the liquid is accumulated in very considerable quantity, the lung is pressed into the form of a thin cake, which occupies a very small space alongside the vertebral column: and if it happens to be covered over and concealed, as it often is, by a strong layer of adventitious membrane, we might fancy, at first examination, that it had completely disappeared. It was in cases of this

kind—especially when the effused fluid consisted of pus—that the lung was erroneously represented by the older observers as having been *destroyed* by suppuration. However, you will always find the lung there if you take the pains to look for it, and to divide the false membranes that bind it down: and, in many instances, it is sound also. Its surface may, indeed, be wrinkled, but the lung itself is capable of being restored to nearly its former volume by insufflation, as it is called; by blowing air into it through the principal bronchus of that side. In this compressed state the lung does not crepitate under the finger; it is dense, and sinks in water; in fact it is wholly void of air, and has been brought, by the pressure of the fluid around and upon it, into nearly the condition of the lung of a foetus that has never breathed. But its firmness, its resistance to being torn, and its capability of being again inflated, prevent our confounding it with hepatized lung. Sometimes its cellular texture is obliterated; the opposite surfaces of the vesicles and smaller air-tubes adhere together; the lung will not admit air; it looks like a piece of muscle, and is then said to be *car-nified*.

Modifications of the healthy sounds.—

Such is a general account of the anatomical characters of pleurisy, as they are disclosed to us by an examination of the body after death. We may now enquire what effect these changes are capable of producing on the *sounds* which are heard when the healthy chest is percussed, or listened at. We shall then be the better prepared to appreciate the several symptoms, general and physical, which are known actually to occur in pleurisy. Now it is clear that when the lung is pushed away from the walls of the thorax by fluid between the pleuræ, it will be compressed also; its capacity must be reduced; less air will be able to enter it. There will consequently be a proportional diminution in the intensity of the respiratory murmur; and this murmur will, moreover, be less audible in consequence of the distance from the ear of the structure in which it takes place. The lung is attached by its roots (so anatomists speak) to the spinal column. A moderate amount of effusion will, therefore, cause it to recede upwards and inwards; and a certain quantity of the liquid will ascend between the lung and the ribs, compressing the spongy pulmonary tissue around the larger and more resisting bronchial tubes. We might expect, in this condition of things, that the passing breath, and the voice, would be audible in those tubes, through the partially condensed lung, and through the circumfused layer of liquid: and it is so. We do hear bronchial respiration, and bronchial voice and cough; with some modification, indeed, to be noticed presently. In this

respect, therefore, you will observe that pneumonia, which solidifies the spongy texture of the lung around the bronchial tubes by filling it with lymph or with blood, has the same effect, as far as acoustic principles are concerned, as pleurisy, which solidifies a portion of the lung by expressing air from it, and pours round the bronchial tubes a fluid which readily transmits sound. Hence bronchial respiration and bronchophony are not always indicative of the same condition of parts within the chest, but derive their true value and meaning from the context, if I may so say; from the circumstances under which they occur, and with which they are associated.

When the effusion is so copious as to squeeze all the air out of the spongy part of the lung, to pack the organ up along the vertebral column, to distend the thorax, and to compress strongly the bronchial tubes themselves, *no* respiratory murmur *can* then be heard, nor any tubular breathing; for the dilated chest can neither expand nor collapse, and, therefore, no air can pass along even the larger air-tubes; neither can these compressed tubes vibrate with the patient's voice; wherefore bronchophony also ceases, or is but faintly audible.

Again, if percussion be made over a portion of the chest, where there is incompressible serous fluid beneath, in the stead of healthy and spongy lung, a dull flat sound will be rendered. But a dull sound is rendered also when percussion is made over a solidified lung. Hence the mere dulness of the part struck does not inform us whether we have pneumonia or pleurisy to deal with, or some other disease that has the effect of making the lung solid, without plugging up the larger bronchi.

But an expedient presents itself, by which we may, in many cases, render this experiment of percussion conclusive. The dull sound occasioned by hepatization or other solidification of the lung occupies the same spot in every position of the patient. Not so, necessarily, the dull sound produced by the presence of liquid in the cavity of the pleura. The liquid will gravitate to the lowest part of that cavity, and will carry with it the dull sound. We place the patient, therefore, in different attitudes: and if we find that the chest, when struck, is always resonant in the higher, and always dull in the lower portions of the thorax, whatever the posture may be, then we may be sure that the cavity of the pleura contains liquid. In such a case, when the patient sits up, the dull sound will be elicited from the lower part of the chest, on one side, from the spine round to the sternum. When he lies on his back, the anterior of the thorax sounds hollow; the posterior dull; and when he reverses that position, and lies with

his face downwards, these sounds change places also; the hollow sound is still uppermost, in the posterior part of the cavity; the dull sound still undermost, in its anterior portion.

There are just two states which may interfere with the true interpretation of the sounds produced by percussion in the manner now described; and these are, first, partial adhesions of the pleuræ, which may confine and isolate the effused liquid, and prevent its sinking from one part of the chest to another under the influence of gravity: and, secondly, so large an amount of effusion as to fill entirely the cavity and fix the compressed and empty lung in one position; for it is necessary, in order to obtain the shifting sounds in different attitudes of the body, that there should be light spongy lung to ascend, as well as heavier fluid to sink down, according to the posture of the patient. In this last case, that of excessive effusion, the whole surface of the affected side will yield a dull sound. It is seldom so in pneumonia; it is seldom that the entire lung on one side is so blocked up, in consequence of inflammation, as to give rise to universal dullness on percussion. But the diagnosis of these two conditions is an important one, and apt to puzzle a student. I hope to elucidate it as we go on.

Symptoms of pleurisy.—We may now consider, with a better chance of understanding some of them, the symptoms which are generally met with in a case of pleurisy under its ordinary form and progress. The general signs, then, of that complaint are rigors, pain in the chest, dyspnoea, cough, difficulty or impossibility of assuming certain postures, and fever. Very much the same, therefore, (as Cullen truly stated) with those of pneumonia, and, it may be added, with those of pericarditis: but auscultation differentiates these diseases. The physical signs I will examine presently. The general symptoms will bear, each of them, a short comment.

Pain.—The *pain* which the patient feels—or the *stitch* in the side, as it is expressively called—is one of the most striking and characteristic signs of the disease. *Point de côté* the French name it. It occupies a point or spot; and patients feel as if some sharp stabbing instrument was driven in at that point every time that the act of inspiration goes beyond a certain limit. The Latin medical writers, attending chiefly to this prominent symptom, call pleurisy “*morbus lateris.*”

This pleuritic stitch is subject to considerable variety in regard to its situation, its severity, and its duration. Most commonly it is felt on a level with or just beneath one or other of the breasts, in the part corresponding to the lateral attachments of the

diaphragm: and this, even when the inflammation which occasions it is of much greater extent. Why is this? What is the cause of the pain? Why should it be restricted to one small spot when the inflammation pervades perhaps the whole of the pleura? Pathologists have made attempts to explain these matters; but perhaps their explanations are not very much to be trusted to. They say that there is a larger degree of motion at the lower part of the thorax, of the pulmonary over the costal pleura; and that the pain resulting from that friction when the membranes are inflamed, is therefore felt where the friction is the greatest. However, the pain is not always confined to that spot. It is occasionally felt in other places, as in the shoulders; in the hollow of the axilla; beneath the clavicle; along the sternum; and sometimes it is complained of as extending over the whole of one side of the thorax. Andral states that he has observed the pain to prevail especially along the cartilaginous border of the false ribs, when the inflammation has attacked that portion of the pleura which covers the upper surface of the diaphragm. He says, too, that, in such cases, the pain often affects the hypochondrium, and even extends as far as the flank, so that it might be mistaken for a symptom of abdominal inflammation. This observation is worth remembering. Sharp pain, occupying the right hypochondrium, belongs oftener to the pleura than to the peritoneum. I have known several instances in which such pain was erroneously supposed to be a sign of hepatitis, when in truth it resulted from inflammation of the pleura. Cruveilhier observes also that he has known the pain affect the loins, and simulate lumbago.

Whatever may be the situation of the pleuritic pain, it is generally increased by percussion, by intercostal pressure, by lying on the affected side, by a deep inspiration, by cough, and by different movements of the body.

In many patients the pain is exceedingly sharp, whether it be continued, or whether it occur only at intervals: the more *circumscribed* it is, generally the more *acute* it is. The patients are then in a state of great anxiety: they make very short and imperfect inspirations through fear of aggravating the pain; they dread the least effort of coughing, or of sneezing, and suppress the desire to cough which the disease may occasion. There are other patients in whom the pain is moderate, is felt only when a *deep* inspiration is made, and is scarcely augmented by pressure or percussion. And there are even some cases of pleurisy which are unattended with pain from first to last.

The pain commonly exists from the very outset of the pleurisy: it is sometimes vague and fugitive at first, and becomes fixed and

permanent after a day or two. In that case it may be mistaken for simple rheumatic pain; for pleurodyne; or for what is thought to be merely a nervous pain. When the pain is increased by slight pressure made upon the ribs as well as between them; when it extends over a large space; when it is unattended with fever; when it is inconstant or fugitive—we may *suspect* that it is situated in the fibrous and muscular tissue; but these circumstances do not afford any *certainty* that such is the case. In fact I have long been of opinion that some at least of the cases which pass under the name of pleurodyne, are really instances of what has been called *dry* pleurisy. You are aware perhaps that adhesions are very constantly found to exist between the lungs and the ribs in persons dead of pulmonary consumption. Such persons are liable to pains in the chest, beneath the clavicles, in the axillæ, between the shoulders, at the upper part of the dorsal region; in short, in those situations where the cellular adhesions are found after death most constantly and in the greatest number. The pains indicated, it may be presumed, the periods at which the slighter forms of circumscribed pleurisy, attended with no other effusion than that of coagulable lymph, took place. And it is probable that many cases of pleurodyne are really instances of the same kind of pleuritic inflammation. How constantly do we find, even when there are no tubercles in the lungs, firm adhesions between the pulmonary and costal pleuræ, in the bodies of persons who were never known to have had any pectoral disease! The pain alone marks the inflammation in those cases; adhesion presently ensues; there is no fever perhaps, or none that attracts much notice; the pain soon subsides, and is soon forgotten; but the adhesion, the consequence of the inflammation, remains: and this is a morbid condition which is neither revealed to the sense of hearing, nor in any other way. I am much disposed therefore to agree with Cruveilhier in thinking that “*pleurodyne is nothing else (in many cases at least) than adhesive pleurisy.*”

I need scarcely repeat the fact which has so many times before been mentioned in these lectures, viz. that the inflammation of membranous parts, and especially of serous membranes, is attended with much more pain than inflammation of parenchymatous parts. We cannot have a better example of it than is afforded in most cases of pneumonia. Most cases of pneumonia are accompanied in the beginning with a stitch in the side; some cases are not. In those cases in which the stitch happens, the pleura also is inflamed to a certain degree, and the pain depends upon the coexistence of the pleurisy: they are cases of pleuro-pneu-

monia. In pure pneumonia, on the contrary, the pleurisy being wanting, the sharp pain is wanting also.

Dyspnœa.—The respiration in pleurisy, at its outset especially, and while there is still pain, is considerably embarrassed: the movements of inspiration in particular are short, hurried, and often interrupted or jerking. And this depends evidently upon the pain, which forbids the free contraction of the muscles that dilate the thorax; and you may often observe that the dilatation is sensibly less on the affected side than on the other. Cruveilhier indeed denies this; or rather he states that he has never observed it: but it certainly is not an uncommon phenomenon. I have noticed it, and drawn the attention of others to it, again and again.

When effusion has taken place—*that*, one can easily understand, will be likely to aggravate the dyspnœa; and it will aggravate it in a greater degree, or in a less, according to circumstances. Thus, if the *other* lung happens to be a diseased lung, then the compression of that which is on the side of the pleurisy will have a more injurious effect upon the breathing. The dyspnœa arising from the effusion and consequent pressure upon the lung will also be in proportion, first, to the *amount* of the effusion; and, secondly, to the *rapidity* with which it has taken place. When the effusion has been slow—or when it has long existed, and the case has become chronic—the circulation through the lung has had time to accommodate itself to the altered condition of the parts, the disturbed equilibrium between the quantity of air and the quantity of blood in the lung is restored, and the dyspnœa is consequently slight.

But there are very singular exceptions met with to all this. Andral states (and I have seen more than one instance confirmatory of his statement) that there are persons, with pleuritic effusion enough not merely to fill but to dilate that side of the chest on which it exists, (and you will observe that we cannot doubt about the presence of the effusion in such a case), who appear nevertheless to be quite free from dyspnœa; and *that*, not while they are at rest merely, for they talk, get up, walk about, even make long journeys, without their respiration becoming so short as to make them complain of it. Now this is conceivable enough in old and chronic cases; but Andral farther affirms that this absence of dyspnœa is not restricted to those cases in which the collection of fluid has taken place slowly; but sometimes happens, even in patients in whom pleurisy has led to abundant effusion in a few days. He gives a case of this kind, in which the patient was not prevented by an enormous pleuritic effusion from carrying

on, without fatigue, in the streets of Paris, his business as a carter. I remember having a butcher in the Middlesex Hospital in exactly the same predicament; and nothing could persuade him that he was otherwise than well, and fit to go out; and out accordingly he went. Remember, therefore, that there are great varieties in this respect. In some patients the dyspnœa never ceases to be urgent from first to last; and these are apt to prove fatal cases. In others the respiration is very much impeded at first; then the difficulty of breathing diminishes; and at length it ceases long before the fluid is reabsorbed. In others again, by some unaccountable idiosyncrasy, the respiration remains at all times very facile, both at the outset and during the progress of the disease.

Cough.—*Cough* is another of the ordinary symptoms of pleurisy. It does not occur in paroxysms. It is small, half-suppressed, ineffectual. In some few cases this symptom also is entirely absent, even though the inflammation is intense, and the effusion into the pleura considerable. When cough does exist it is dry; or it is accompanied by the expectoration of slight catarrh. If much frothy mucus should be expectorated, the pleurisy is complicated with bronchitis: if rust-coloured sputa be brought up, it is complicated with pneumonia: and in each case other signs, proper respectively to those two diseases, will be present.

Decubitus.—A good deal has been said and written respecting the position which a patient who is labouring under pleurisy assumes. The manner of the *decubitus* has even been regarded as one of the pathognomonic signs of the disease. Yet, strange to say, observers are much at variance with each other in respect to this so-called pathognomonic symptom. Some affirm that the patient lies on the side affected; others that he can lie only on the sound side; others again that he lies neither on the one side nor the other; or even that he lies indifferently in any posture. But this dispute is exactly a counterpart to that celebrated quarrel which took place about the colour of the chameleon: "they all are right, and all are wrong." I believe that, if you narrowly inquire into the facts, they will be found to be somewhat as follows:—In the outset of the disease, while there is yet pain, the patient cannot lie on the affected side on account of the pain, which that position exasperates; he lies therefore on the sound side, or on his back; sometimes he is obliged to sit up. At a more advanced period of the disease, when the pain has ceased, and considerable effusion has taken place, he cannot lie on the sound side, because of dyspnœa: the dilatation of the chest on that side would be impeded by such a posture; and what is

more, the effusion, lying uppermost, would press upon the mediastinum, and so farther tend to restrain the expansion of the sound lung. But he is no longer prevented by pain from lying on the diseased side, and consequently he does, in some instances, take that position: but more commonly still he lies in what Andral calls a *diagonal* posture; *i. e.* the patient is not on his back, nor on his side, but between the two; on his back, we may say, but inclining towards the affected side. Again, however the fact may be explained, it is certain that there are some few persons who lie indifferently on the back or on either side without augmentation of the dyspnœa in any of these positions, though one side is choke-full of liquid.

Now of the symptoms that we have hitherto been considering, the pain, the dyspnœa, the cough, the accommodation of position, there is not one which, taken alone, can be said to be strictly or absolutely pathognomonic; or which indicates in a positive and certain manner the existence of pleurisy, or of pleuritic effusion. Yet when all, or several of them, occur together, they afford a degree of probability on these points almost equivalent to certainty. There are yet some other, and more conclusive signs, which either in themselves, or taken in conjunction with those already mentioned, render the diagnosis of pleurisy easy and sure. These signs are furnished by the size of the thorax on the affected side; by its form and motions; and above all, as you will have anticipated, by percussion and auscultation.

Enlargement of the side.—I have already stated that in some cases, that side of the chest which contains the effused fluid becomes evidently larger than the opposite side. The ribs and their cartilages present that position which they assume during a deep inspiration: the intercostal spaces are pushed outwards and brought up to the level of the ribs; and occasionally fluctuation may be perceived in those spaces, through the muscles. When these appearances are observable, no doubt (or *scarcely* a doubt) can remain concerning the nature of the disease. This dilatation of the thorax on the diseased side is more common in old chronic cases than in the earlier periods of acute pleurisy; yet it *may* take place in a very short time. Andral declares that he has known it sometimes reach a great degree by the fourth or fifth day of the acute disease. You may satisfy yourselves that the side is dilated by measuring it with a string. Carry a string round the chest, upon a level with the extremity of the xyphoid cartilage, then fold it upon itself, and you will find that the half of it will more than encompass the sound moiety of the chest, and will not reach round the diseased. The diseased side

may measure an inch, or an inch and a half, or even sometimes two inches, more than the other. But this measurement by a string is seldom necessary. The eye makes a very accurate estimate of the comparative volume of the two sides; and the obliteration of the intercostal spaces can only be ascertained by seeing or feeling them. It is necessary to remember that, in most persons, the right side is naturally somewhat the larger of the two.

I say when this dilatation is noticed *scarcely* a doubt can exist of the true nature of the case. Some time ago I should have said *no* doubt: but having myself mistaken such a case, and seen others mistake it, I introduce this slight qualification, although it is a thousand to one against another such case occurring to puzzle or mislead the observer. Some time ago Dr. Hawkins had a patient in the hospital, in whom this dilatation of one side of the chest was exceedingly well marked. It was the left side that was enlarged; the heart was evidently pushed over to the right of the sternum. This is another circumstance strongly corroborating our conclusion in such cases. The intercostal spaces were effaced, and the whole of that side was perfectly dull on percussion. The poor fellow had a very unhealthy aspect;—and he had, some time before, suffered amputation of a leg, for what was understood to have been scrofulous disease of the knee-joint. It was not unnatural therefore that every one who saw him should have come to the conclusion that this was a case of empyema; of fluid, and most likely of pus, collected in the pleura, and very probably the result of the extension of scrofulous disease from the lungs. Under these circumstances, and inasmuch as his dyspnoea was not urgent, it was not thought right to take any steps for evacuating the presumed fluid. The case was pointed out to the pupils as a capital example of empyema. At length the patient died; and when his body was examined we discovered—what think you? not pus, nor serum, but a large red *solid* mass, in the centre of which, when it was divided, was still a red, but softer, pultaceous, half-fluid substance. At first it was thought to be cancerous degeneration of the lung; but it was soon noticed that the solid part was arranged in concentric layers, like those which are often seen in aneurismal tumors; and farther research showed that the effusion had indeed once been liquid, for it consisted entirely of blood, which had coagulated in the manner I have just described. And the source of the blood was detected. A portion of two of the ribs had been destroyed by ulceration, and one of the intercostal arteries had thus been laid open. The lung was found uninjured, but totally empty of air, and pressed flat up against the mediastinum.

No precaution could guard against such a source of fallacy; and you are not likely ever to meet with just such another case; yet I have thought it sufficiently interesting to relate, in illustration of the subject immediately before us.

It is unfortunate, as far as the diagnosis is concerned (but not in any other sense), that dilatation of the thorax is far from being a constant symptom, even in cases in which the effusion is very considerable.

Contraction of the side.—There is still a condition of the thorax to be described, which is the very opposite of this. When the effused fluid begins to be reabsorbed—and when some cause or other, generally the formation of adventitious membranes, prevents the lung from re-expanding, and approaching the ribs in proportion as the fluid is removed—then of course the ribs *must* sink in, and approach the lung, to prevent that void which would otherwise exist between the ribs and the lung. Consequently that side of the chest on which the fluid has existed becomes narrower than the sound side. And the actual difference between the two will be augmented by the circumstance that, in such cases, an amplification of the sound lung, and of the cavity in which it is lodged, a true compensatory hypertrophy, commonly takes place.

This partial or general retraction of one side of the chest is not so much a sign of disease actually in progress, as of disease gone by; and it may exist without evident disturbance of the health of any kind.

Persons who are thus affected have the appearance of being inclined towards the diseased side, even when they endeavour to hold themselves upright: and the deformity, for such it is, becomes manifest to the eye when the chest is uncovered. You see that the side is narrowed and shrunk. All its dimensions are contracted. It measures less, in circumference, by an inch or more, than the other side. The shoulder is depressed; the hypochondrium is tucked up; and the ribs are drawn close together. A patient of mine, whose chest had been punctured (a remedial procedure to be spoken of presently), and who drew off daily with a syphon pus which did not otherwise find vent, had such difficulty at last in introducing the tube between his ribs that excision of a piece of the bone was contemplated by the eminent surgeon who had performed the operation. The effect of the atmospheric pressure is sometimes so great as to crook the vertebral column, and produce lateral curvature of the spine. This I have myself witnessed. And as one of the unseen walls of the cavity, viz. a part of the diaphragm, is carried permanently up under the ribs, so another of the unseen walls, the mediastinum, is liable to be influenced by the tendency to contraction.

The heart which, when the *left* pleura is *distended*, is apt to be *thrust* over, beyond the sternum on the right, may thus, when the *right* pleura is *contracted*, be *dragged* into the same position. In the former case, the dull sound given out by the diseased side when struck, will transgress the mesial line, and encroach a little upon the healthy side: in the latter, the resonance yielded by the healthy will transgress the mesial line, and encroach a little upon the diseased side.

The difference of the two sides is so striking, that, at first sight, an observer supposes it to be even greater than it is actually found to be by admeasurement. Yet Laennec tells us that he had met with this deformity in persons who were not themselves aware of its existence. But all such persons had suffered some long disease, which appeared to be situated chiefly in the thorax.

The conditions I have just been describing are *physical* conditions; and the signs they furnish are *physical* signs. I have still to speak of the remaining physical signs, which are also *auscultatory* signs. What I have already said upon this subject in the present lecture will, I trust, enable you almost to foresee the kind of information which these signs afford in actual practice.

Auscultatory signs.—As soon as even a slight amount of effusion commences in the pleura, it is announced by a diminution of the hollow sound which percussion elicits in the healthy state. In proportion as the effusion becomes more considerable, the chest, when struck, gives a sound more and more dull. At first this flat sound is rendered opposite the lowermost, depending part only of the cavity; and this, as I shewed you before, forms one ground of distinction between the dullness on percussion in pleurisy, and in pneumonia. However, at length, the effusion augmenting, the dead flat sound may proceed from the whole of the affected side; and this forms another ground of distinction: for it is very seldom that the whole lung becomes so solid in pneumonia as to yield a uniform dead sound over the whole of one side of the chest. Either the dull sound is universal on one side, or it is not. If universal, it is not likely to be the result of solidification by pneumonia; or, I may add, by tubercles: if not universal, the dull sound will (except in some rare cases) shift its place as the patient alters his posture.

I may mention another ground of diagnosis, which may be of great assistance when the case is seen from the beginning. The dullness comes on much more quickly in pleurisy than in pneumonia. It has been noticed within twelve hours from the invasion of the disease. In living animals, a considerable quantity of serous effusion has often been very rapidly produced by inject-

ing some slightly irritant matter into the cavity of the pleura. In pneumonia, the dullness is commonly later in its appearance. The induration of the lung is gradual; and so is the pneumonic dullness on percussion: the effusion of serous fluid is early and rapid; and so also is the coming on of the pleuritic dullness. Moreover, as I have just shewn you, pleurisy may displace the mediastinum, and cause the *whole* sternum to give a dull sound. A hepatized lung will render *one-half* only of it dull.

The intensity or completeness too of the dull sound is generally greater in pleurisy than in pneumonia. In two days, or even in twenty-four hours, the whole cavity of the pleura on one side may be filled quite full; and the whole of the corresponding surface of the chest, from its base to its summit, will yield a sound (to use one of Avenbrugger's strong expressions) *tanquam percussæ femoris*. It is very uncommon for such total and universal *matité*, as the French call it, to result from inflammation of the lung.

Again, in the outset of the disease, while there is yet little or no effusion, but when the pain is acute, the vesicular breathing is heard more faintly and feebly on the painful side than on the other. On that side also the walls of the chest are less forcibly dilated. But percussion, when the pain will permit of its being practised, gives the same sound on each side. It is clear that the sharpness of the pain causes the patient instinctively to dilate the chest on that side as little as possible; and consequently the quantity of air that penetrates the lung in a given time is diminished, and the respiratory murmur is feeble.

As soon as effusion commences, the vesicular rustle is heard still less plainly on the affected side; and in proportion as the fluid increases, that rustle or murmur becomes more and more faint: and at the same time it becomes more distinct and noisy than natural—*puerile*, in fact—on the sound side. And while the respiratory murmur is disappearing on the diseased side, and the spongy lung is becoming empty of air from the pressure of the increasing fluid, and the larger bronchi are surrounded by compressed lung and by incompressible liquid, the bronchial sounds begin to be heard, which I formerly described—the bronchial voice, the bronchial respiration. But the sounds are not exactly the same as those which are heard in pneumonia. They are modified by the nature of the substances through which they pass. The voice, for example, is still bronchial, still the voice of a person talking into a tube: but it has a superadded character; it is trembling, quivering, thrilling, cracked, and discordant. I strive in vain to convey to you by these epithets a notion of this remarkable modification of the voice.

Laennec's happy similitudes may enable you to form a more exact conception of it. It is like (he says) the bleating of a goat; or, happier still, it resembles the voice of Punch. But when once you have heard the sound, you will never forget it again. I presume that this modification of bronchophony (for such it is, and such I would have you consider it) is caused by the rapid undulations communicated to the effused liquid by the vibrations of the bronchi and condensed pulmonary tissue. This sound is usually most distinctly heard near the inferior angle of the scapula, the patient being in a sitting position. It disappears, or merges into pure and distant bronchophony, when the liquid exceeds a certain amount, so as to compress the bronchial tubes themselves, and to *damp* their vibration.

I would have you recollect, therefore, that *ægophony*, which is the technical appellation of the sound I have just been describing (goat-voice),—*ægophony* is nothing more than a species or variety of bronchophony; and that the two run the one into the other by such fine gradations, that it is sometimes difficult to say which it is that we are listening to. When the quivering is strongly marked, we may be sure that it denotes effusion into the pleura; when bronchophony only is heard, we cannot be sure, from that sound alone, whether there be indurated lung between the ear and the bronchi, or a liquid, and a portion of compressed and condensed lung: but other phenomena complete the diagnosis.

You will observe that when any modification of the voice is heard, or thought to be heard, on the suspected side, the sound of the voice in the corresponding part of the other side of the chest should be ascertained also. It is only by a *comparison* of the two sides that we can come to any safe conclusion; and that *comparison* becomes often a striking and most instructive *contrast*.

CASES OF MAMMARY ABSCESS,

TREATED BY COMPRESSION.

To the Editor of the Medical Gazette.

SIR,

IF you think the following article worthy of a place in your valuable periodical, its early insertion will oblige, sir,

Your most obedient servant,

JOSEPH BELL.

Barrhead, Oct. 16, 1841.

In the part of the MED. GAZ. for last month, there is a valuable extract from an article "On the use of Compression

in the Treatment of Mammary Abscesses," by MM. Trousseau and Contour, and which appeared in the *Journal des Connais. Méd.-Chirurgicales*, Janvier 1841.

Having experienced very great benefit from the employment of compression in such cases, I have been induced to send the present communication for publication, in order to attract as much attention as possible to a means of cure which, though frequently brought under the notice of the profession, yet, so far as I can ascertain, is very seldom employed.

The editors of the Dublin Medical Press favoured me by publishing the following case and remarks in their journal for 23d December, 1840.

May 12th, 1837. Mrs. C., ætat. 26 years, mother of two children. She is of ordinary stature, dark complexion, considerably emaciated. Complains of severe pain of left mamma, which is discharging large quantities of purulent matter from a small opening situated a little above the nipple, on the outer aspect of breast, which measures in circumference $26\frac{1}{2}$ inches; on its superior aspect it measures 12 inches from base to nipple, and 9 inches inferiorly.

It is very hard and painful, particularly at the upper part; the hardness is irregular and knotty; integuments over upper side red and tender; pain extends to axilla of same side, and down arm to fingers; some milk comes occasionally from nipple; the lacteal secretion is very scanty in right mamma; general health much impaired; has no appetite; tongue covered with a dirty white fur; thirst; skin hot and dry, but at night is covered with a profuse perspiration; pulse 120, feeble; can obtain no sleep from pain; bowels said to be regular; has been confined to bed nine weeks; suppuration commenced eight days after the birth of her youngest child, now three months old.

The abscess was opened by her medical attendant about a fortnight afterwards, from which time she has constantly applied linseed meal poultices, according to his directions.

Applicat. fascia Mamm. sinistr. et habt. haust. Anodyn. h. s. ex Sol. Mur. Morph. gtt. xxx.; Tr. Hyos. Nig. ʒj.; Aq. Cinnamomi, ʒj. M.

14th.—Great relief of pain instantly

followed application of the bandage. To-day she has no pains whatever; she looks more cheerful; has slept well for the last two nights; appetite improved; tongue cleaner; skin more natural; perspiration at night less; pulse 84; bowels regular; breast now measures only 17 inches in circumference, 6 inches from base to nipple superiorly, and 5 inferiorly; hardness much less, and discharge considerably decreased; redness of integuments gone.

Cont. fascia sed intermitt. haust. Anodyn.

18th.—Bandage came off on the night of 16th; I could not find it convenient to apply it till to-day. Breast more swollen and painful than on the 14th, but not near so much as it was previous to application of bandage; hardness increased, particularly in direction of left axilla; pulse 100; did not rest well last night; bowels costive.

Cont. fascia et habt. Ol. Ricin. \mathfrak{z} j.

21st.—Breast has been always easier since the bandage was applied on the 18th. All pain is now gone; breast much reduced in size, it is now no larger than a small fist; discharge almost ceased; pulse 76; bowels freely opened by oil, and have been regular since.

Cont. fascia.

June 1st.—Breast is now well; general health good. Attendance discontinued.

REMARKS.—The above case illustrates the beneficial effects that have resulted from compression in several cases of mammary abscess which have come under my observation. I have found it also exceedingly useful in cases of sinuses, which are frequently the sequelæ of mammary abscesses.

In one case the sinuses were of nine months' duration, and had resisted a great many applications, but were completely cured in ten days by compression.

This treatment is by no means new, although I believe it is not generally known. I was not, however, led to adopt it from any authority, but from a preconceived notion. It afforded me great pleasure to observe it strongly recommended by a writer in the LONDON MEDICAL GAZETTE (vide vol. xxii. pp. 389, 419.) This gentleman seems to think that the treatment had not been brought under the notice of the profes-

sion previous to the appearance of his paper on the subject. We find, however, the practice highly lauded by M. Jules Cloquet, in a clinical lecture on abscesses of the mammæ delivered in 1837 (vide *La Presse Médicale*, 1837.) He mentions a case of six months' duration, "treated to no purpose by all other means, which yielded to compression as if by enchantment." I intended to have published the first case which I treated by bandaging, when it occurred, but delayed doing so in order to test its effects in other instances, in all of which I have found it successful. I use a common roller about nine yards long, which I apply round the chest and shoulders, so as to make gentle and uniform pressure on the affected breast; openings are made in the bandage to allow free exit to the discharge. The greatest care must be taken to have the bandage equally applied, as, if it be allowed to press more on one part than another, we will to a certainty not only aggravate, but cause the very affection we are endeavouring to combat. In order, therefore, to be successful, the roller must be carefully and judiciously applied.

Since the above was written, I have treated five cases of mammary abscess with the greatest success by compression. Two of these I will now quote: in these instances I employed strips of adhesive plaister, as recommended by MM. Trousseau and Contour.

CASE I.—Jan. 6, 1841, Mrs. T——r, æt. 32 years, mother of four children. She is of full height, fine complexion, and of ordinary stature; a native of Ireland. Right mamma has suppurred, and is discharging, from an opening under nipple, a large quantity of purulent matter; breast much swollen, very painful, and hardened, particularly the under side, where the skin is red and tender; pulse 100; tongue foul; thirst; sleeps very little; is exceedingly restless; bowels costive.

Was delivered of a male child six weeks ago. Shortly after this her breast suppurred, and was opened by a surgeon on the 9th ult. She has been using poultices and ointments since.

Admov. fasc. Mamm. dextr. et habt. Ol.

Ricini, \mathfrak{z} j.; Tr. Hyosciam. Nigr.

\mathfrak{z} iss.; Aq. Cinnamom. \mathfrak{z} jss. stat.

7th. — Slept some last night; oil

operated twice; bandage has come off this morning; pulse 96; mamma much easier; swelling less.

Continuentur omnia.

10th.—The bandage, either from the restlessness or the carelessness of the patient, cannot be kept properly applied; mamma not improved, but rather more painful and enlarged.

Strips of common adhesive plaster, about two inches broad, were applied round chest (somewhat in the manner used in the Bayntonian treatment of ulcers), so as to make firm compression on breast, and, at the same time, to allow free passage to the discharge; a bandage was applied over the plaster in the usual manner.

12th.—Great improvement; pain, swelling, and discharge, greatly abated. Pulse 76; sleeps well.

Continuentur.

22d.—Mamma quite well; is as small as that of left side; no hardening; no pain even caused by firm pressure with the hand; opening has been healed since 16th. Attendance discontinued.

CASE II.—March 22, 1841. Mrs. M'W—, æt. 22 years. A tall delicate female, fair complexion, a native of the north of Scotland, on the 6th inst. was delivered of her first child. She had a good recovery until the 14th, when her right breast became inflamed, and, despite the usual remedies to procure resolution, suppuration took place; it was incised yesterday, when several ounces of yellowish matter escaped. The abscess is deep seated, and the breast is very much enlarged, exceedingly painful, and is discharging profusely; pulse 100; pyrexia.

Utat. Compress. Mamm. dextr. c. Emplas. adhesiv. extens. et fascia, more solito.

24th.—Mamma doing well; pain, tumefaction, and hardening, rapidly subsiding; health improving; feverishness gone.

27th.—Breast nearly well, but plaster has produced considerable irritation of the skin over which it was applied, causing abrasion in some places and much pain.

Intermit. Emplas. Adhesiv. sed. cont. fasc. et utat. Ungt. Simpl.

31st.—Mamma quite well; tenderness of integuments almost gone.

REMARKS.—In Mrs. T.'s case I was

led to employ the plaster in consequence of being unable to keep the bandage properly applied to the breast. Finding in her case that it retained its place much better than a simple roller, I have used it in all the other instances which have occurred to me since. This is an advantage which it possesses over the common roller; but, on the other hand, as will be seen from M'W.'s case, very great irritation of the integuments was caused by the plaster. The same effect was produced in two other instances. In these, however, the evil was obviated by substituting a finer quality of plaster (for that in common use), sold here under the name of Leicester plaster. Not the slightest irritation or uneasiness was caused by its application.

I have been so well pleased with the result, that I shall use it in future in all such instances.

Perhaps it should be mentioned here, that Dr. M'Dowall, of Dublin, has invented an instrument for making compression in cases of mammary abscesses. In the Dublin Medical Press for Dec. 30, 1840, this gentleman in a note (referring to my communication which appeared in the previous number) states, "I have been in the habit of employing compression for some years past in those cases (abscesses of the mammæ), and the result has been such as to lead me to coincide with Mr. Bell in his views on the subject. I have invented an instrument for the purpose, which I have found to possess many advantages over either the bandage or the other modes of compression usually employed. This little instrument is extremely simple, being composed of two springs curved in a peculiar manner, and crossing each other at right angles, having a pad at each extremity. In adjusting it, the extremities of the springs are drawn asunder, and the breast being placed between them, are allowed to close gently upon it: the stays may then be closed over it, or, if the stays cannot be worn, a small bandage round the chest will do. When thus fixed, the instrument holds the breast firmly, as if it were grasped by the hand, and can be used with very little trouble or inconvenience to the patient."

Whether or not this invention of Dr. M'Dowall be calculated to effect the object in view I cannot say, as I have

neither seen nor used the instrument. If, however, it make sufficiently firm and uniform compression on the breast, it certainly must be a preferable means of treatment to either bandage or adhesive plaster.

In conclusion, I would observe, that from my experience of the use of compression in these cases, I can conscientiously join with MM. Trousseau, Contour, Dr. M'Dowall, and others, in strongly recommending the treatment to the profession, as most efficacious and speedy in its effects; alleviating much pain and suffering to the patient, and saving much time, trouble, and annoyance to the medical attendant.

From what I have witnessed of the employment of adhesive plaster, I consider that its application should be preferred to the bandage, as the former is not so easily removed either by the carelessness or restlessness of the patient as the latter, which, however, is even itself of admirable utility in the treatment of this really painful and tedious affection to which the mammæ are so liable, particularly at a time when a due performance of their function is so much required.

AN INQUIRY
INTO THE
TRUTH OF THE ELECTRIC NATURE
OF THE NERVOUS PRINCIPLE.

By WM. BEVAN, A.M.

Member of the Royal College of Surgeons, Ireland.

[*For the London Medical Gazette.*]

HAVING had it in contemplation, Mr. Editor, some time, to make known my ideas relating to the truth or falsehood of the electric nature of the nervous principle, I think no time more befitting than the present, more especially as it is now generally received by the profession, and taught in the schools.

Perhaps there is no hypothetical phantom, which engages the attention of medical men more than this most captivating but most unproven one—namely, the electric nature of the nervous principle. In considering it, let us see if there be any fact or facts on record which can shew that there is any identity between this force and the electric; or is there any thing to shew, that the same

quality of matter exhibits its phenomena under two forms in nature. What are these qualities? Are they not heat, light, and electricity? Do they not present constantly the same undeviating and unchanging phenomena in each body of unorganized matter, and under the usual arrangements? Most assuredly. Is this the fact as regards animated existence? We shall see. When the galvanic current is made to pass through the animal body, electric phenomena are developed; if insulated, as in the inorganic kingdom, it becomes a highly excited mass. If uninsulated, these are not so evident; sparks cannot be drawn. If a part or parts of any of the structures be laid bare, its effects are instantly shewn by muscular contractions; there is no evidence of its force on any other system; the nerves exhibit none. If we decapitate an animal—for instance a frog—and direct a current of galvanic electricity through any of its nerves, the most violent contractions and contortions of the muscles ensue; the body is thrown into violent agitation. But if we suspend our operations during twenty-four hours, and reapply this force, no action, no phenomena accrue. Yet, if the electric laws in the animated were the same (and which we should expect to find them to be) as in the inorganic kingdom, the same consequences ought to follow. If any electrical apparatus be in a state of low electric tension, all its parts seem at rest; but if any thing should disturb its repose—if an acid be added—immediately electrical phenomena become manifest in a high degree. Here we have an evidence of the increase and continuance of the original quality. Can we produce the same continuance of electrical phenomena in the perfectly dead animal body? That we cannot will not be denied. Would it not, then, be a rational deduction to draw, that, on directing a galvanic current on a perfectly dead nerve, we should find a continuation—an exaltation, of its electrical force, if this force be the true organic nervous influence, and that electricity be equal and similar in all its results? If it be admitted that it is not similar in all its properties, and if it be maintained that the electric force is the nervous, we must be driven to adopt a new hypothesis, viz. that

there is one electricity for the animal, and another for the inorganic kingdom—an hypothesis equally absurd and unphilosophical, and a conclusion not drawn from any known premises. No battery, however well arranged, however strong, can reproduce the powerful shocks in the dead electrical apparatus of the torpedo, which (as are well known) are so powerful in the living state, exhibiting all the forms of electricity, as that jars may be charged by it, sparks elicited, and the most violent shocks received. Why should not these phenomena be manifested in as high a degree when an electrical current is directed on it perfectly deprived of life? To answer this is the great problem sought to be solved. One answer, at least, may here be given, "God breathed into man the breath of life." Is there any philosophy so extravagant, or so seductive, as to assert that this is electricity? The whole chain of argument (as yet) on this head is an hallucination of the brain, altogether destitute of proof. Without laying claim to originality, I might say that the great life-giving principle is an attribute of the divine power; that it is the original implanted stimulus that gives rise to life and organization; that it is (if I might so say) that animated electro-motor of our existence; that the whole systems are, as well as the nerves, under its control; but that the nerves and brain are most probably, from their beautiful and delicate structure, more the receptacles of it than the others; that by its power their electric phenomena are set in action. That it may be possible that, under this influence, they may discern from the blood the different solids and fluids of the body; but as yet we have no fact to prove it.

Further, the supporters of the electro-vital theory (as I understand them) assert that the brain and spinal cord are the great receptacles—the great batteries—whence flows this magic fluid through the nerves. The brain is doubtless destined to supply the muscles of voluntary motion, while the spinal cord is appropriated to the involuntary.

It is unfortunate for these new theoretic philosophers, that animals deprived of the brain, either artificially or naturally, can sustain life for days, for months, nay years; that even the human subject, deprived of the brain by

disease or otherwise, sustains life for a longer or shorter time; that there are instances of acephaloids and asphaloids, sent into existence, wholly wanting these organs. What, then, becomes of this cerebro-spinal galvanic theory? Is it necessary to observe that it is as the "baseless fabric of a vision?" Either we must admit that the nerves do not possess this electric force; or that, deprived of the brain and spinal cord, they are each, and separately, a galvanic battery; a notion, I imagine, that will have few advocates at the present day. But, again, we do not find that shocks inflicted on an ordinary galvanic battery injure it; while we well know how sudden electric shocks destroy life perfectly and in an instant; but that dissection does not, in a single instance, discover the slightest disorganization of a part, or parts, throughout the whole body; or even the least alteration in the character of the blood, the great *pabulum vitæ*.

But permit me to proceed a little farther in this inquiry. Having divided the pneumogastric nerves in a rabbit, the consequences, as described by Le Gallois and Magendie, followed, namely dyspnœa and stridulous respiration. On directing the current of galvanic electricity in the course of one of them, immediately these symptoms disappeared. What would be the explanation of this, given by the disciples of the electro-nervous theory? I conclude it would be the following: that the nerve, by suffering division, had its current flowing from the brain cut off, and therefore was no longer capable of fulfilling its function; but that, when placed in connection with the battery, this fluid again coursing along it, its action became therefore renewed. Now if this were fact, how comes it to pass, I would ask, that an acid, or any other strong stimulant, applied to the extremity of the divided nerve, renews its action equally well. This I can testify, as also do the experiments of Magendie.

Let me here transcribe the history of two cases, which bear on the foregoing. A man is seized with apoplexy; animation shortly becomes altogether suspended; the usual means of resuscitation fail, viz. bleeding and outward stimuli. At length alcohol and volatile alkali are forced down the œsophagus; instantly the circulation and respiration

are renewed, and the man is restored*. Whence comes the electricity in this case? will it be asserted that it was supplied to the nerves through the medium of these fluids? Again, a man is taken out of the water a short time after immersion; the usual means of restoration fail. At length the current of galvanic electricity is directed in the course of the nerves (viz. from above downwards), and after a few convulsive efforts the man revives. Such an instance occurred to Mr. Ferguson, of the West Meath Infirmary. Similar results I obtained, some years since, on rabbits, in whom animation was suspended. Similar did also Magendie. Will it be maintained, that the causes which produced these effects were the same; that they both were the results of the electrical force, the alcohol and volatile alkali in the one, and electricity in the other? Will it still be maintained, that the electric fluid, coursing down the nerves, restores them? Would it not be more rational to conclude that they both acted as stimuli, which, exciting the dormant vital nervous principle, set it again into action?

The adherents to this theory assert that every thing is alive. They go still farther, and declare that this life is the result of chemical affinities. Now, as we know that all chemical attractions and repulsions are the result of opposite and similar electric relations of the atoms of matter, it follows directly that all life is the result of the electric force. To argue the reverse would be an absolute absurdity from such premises.

This conclusion was come to lately by a talented philosopher, at this side the water; but he failed to convince his numerous and intelligent auditory.

I well remember being present at an introductory lecture given by a learned professor of anatomy in this city, who (in his usual rhetorical and eloquent strain) likened the human body to the steamengine. "There," said he, "are the pipes, the boiler, the fuel, and the fire, and you have motion. So in the animal you have heart, blood, arteries, brain, nerves, heat, and you have life!"

But this sage philosopher and his metaphor may be likened to a man seated in his boat on the calm waters, with rudder, oars, &c. who becomes incapable of giving himself the least impulse—

through what, gentle reader?—through impotence. The first stimulus to action is wanting. That *primum mobile* which influenced the head of a Watt to arrange the pipes, the boiler, the fire, &c. was necessary before he could have given to the world that stupendous machine: that principle recognised of old by a Hunter, that *omne vivum ab ovo* of the ancients, that principle that lay dormant in the root, in the hand of the mummy, for centuries, that, when placed under favourable circumstances, started it into life. If ever there was an instance more forcible than another, to set aside this theory, it lies in the consideration of the lower tribes of animated nature, wherein we neither find a trace of brain or spinal cord, but where we find such a tenacity of life, that when cut, divided, and maimed to infinity, they do not part with it; yet that they possess a nervous system the late researches of Ehrenberg prove. Will it be averred that the ganglions perform the cerebral electric spinal office, when dissection shews them to be a mere interlacement of collateral branches? As regards the electric property of fishes—the isolated fact on which this whole hypotheses is built up—it is most probable another instance, of the many that divine providence has manifested, by giving these creatures a means of defence—(*vide* Humboldt's taking the *Gymnotus*)—when, having become exhausted of this power, they easily became a prey. If electricity were the true nervous agent, would it not have been very probable that, when deprived of it, death should have ensued? This, however, did not follow, as they regained it in a short time. But if it is entertained that there is a principle in the body denominated vital, and also one called nervous, by what parity of reasoning can it be shewn that there is any difference—any line of demarcation between them? as it is well proved, by a variety of facts, that the nerves are sufficient for all the purposes, and that the annihilation of them is the annihilation of life.

Lastly, to give credence to this theory, we never should expect to find a termination to existence; for, as in the inorganic battery, when washed and cleansed, its action may be renewed, so in the great living battery, it should never wear out, never cease.

* This case occurred to the author.

In conclusion, Mr. Editor, I can say that I could have added much more, but do not wish to take up too much space in your valuable journal; nor should I have written on this subject at all, but looking upon it as of the last importance that it should be settled, for otherwise its constant inculcation must lead to scepticism, doubt, and infidelity. *Verbum sat*. I think enough has been adduced to demonstrate that it is another instance of those chimerical fancies of the day, which are perpetually disgracing our profession, and bringing us into contempt with the public; that, like mesmerism, it will meet with a similar fate—be merely had in memory, and as a tale that were told.

October 18, 1841.

ON THE DIAGNOSIS OF CATARACT, AMAUROSIS, AND GLAUCOMA.

By W. W. COOPER, Esq.

(For the *London Medical Gazette*.)

A CORRECT diagnosis, at the very commencement of a disease, is of the most essential importance, as by it the treatment will be regulated, and upon it the success in subduing the disease must mainly depend.

Where diseases of an opposite nature closely resemble each other in their earliest appearances, it becomes a matter of grave importance to familiarise ourselves with their respective characteristics; but when, in addition, so important and valuable a sense as that of vision is at stake, and when we are frequently called upon to decide whether a case be curable or incurable—whether it be an affection of the retina, of the crystalline lens, or some other portion of the delicate apparatus of the eye,—every surgeon must feel that a grave responsibility rests upon him, and that he should be prepared, by study and observation, to discriminate between the various affections to which each of these structures is liable, and to be familiar with the changes, the appearances, and the symptoms, which are peculiar to each.

It not unfrequently happens that a patient comes to a surgeon to ask his advice respecting his sight, which he may state has been failing him for some

weeks, or months, or possibly years, adding that he thinks he has a “blight” in his eye, or may be a “skin” growing over them; such being the popular terms. Upon examining the organs, the inexperienced surgeon will detect nothing very particular—at least nothing that he recognises—and will be puzzled to account for the phenomena complained of; whilst the rambling history of the patient, which generally contains much that is irrelevant, and very little that is to the purpose, adds only to his perplexity. Still he must say *something*, and at a venture, perhaps, pronounces it to be the commencement of cataract, or recommends the use of spectacles, or advises the patient to “wait a while, and see how it gets on.”

What must be the feelings of that surgeon when he subsequently finds the case to have been one of incipient amaurosis, or chronic retinitis, or glaucoma; that it was in his power to have arrested the progress of the disease, but that the time for action has gone by; that the disease has made too great progress to be subdued by treatment; and that the unfortunate individual is condemned, through his ignorance, to irrecoverable blindness!

In the hopes that a comparison of the symptoms of cataract, amaurosis, and glaucoma, with a short exposition of the means of discriminating between them, may render assistance to those students and members of the profession who have not time or inclination to consult more bulky and expensive works, I propose to devote this paper to the subject.

If we are consulted under the circumstances before mentioned, we shall be guided in our diagnosis by certain subjective and objective symptoms, the absence, or presence, or combination of which will enable us to form a decided and satisfactory opinion upon the nature of the case, the probable result which may be expected, and the treatment to be pursued. Generally speaking, one eye alone is complained of, or at least is worse than the other; and it will be convenient to describe the mode of proceeding to be adopted when such is the case.

It is necessary that the patient be placed in a good, but not a dazzling light; and the rays should not fall directly, but obliquely, upon the eye, which should be examined, first in its

natural condition, and then when the pupil is dilated under the influence of belladonna, without which no decided opinion should be pronounced.

The two eyes should be compared; first by examining the state of the iris of the affected eye whilst the other is open, and then when the sound eye is closed. There is great sympathy between the irides, and we often find a material difference in the activity of the pupil of the affected eye, when examined under the above circumstances.

Does the patient see best in a strong light, or in the dusk of the evening?

In amaurosis, the excess of light is grateful to the diminished susceptibility of the retina, and the sight is improved thereby. Not so in cataract. The opacity in this disease generally occupies the centre of the lens; and consequently, when the pupil is contracted to its utmost, under the influence of a powerful sun, but very few rays can enter the eye, and vision is greatly impaired; whereas, in a moderate light, a larger portion of the lens is exposed, and more rays are admitted.

The subject of cataract, therefore, sees best in a diminished light. In fact, there is a marked difference in the aspect of individuals when the diseases in question have made much progress. The patient with cataract knits his brows, and shades the eyes as much as possible. The amaurotic individual, on the other hand, expands his eyes to the utmost, seeking light; and thus the countenance assumes a peculiar but characteristic vacancy of expression. I may observe that, in one particular species of cataract (that in which the opacity commences at the circumference of the lens), this rule does not hold good, for in that case the vision is improved by a strong light; but the absence of other symptoms, and the dilatation of the pupil with belladonna, will speedily prove to us the true nature of the case.

What is the character of the obscurity of vision?

In cataract, all objects seem obscured by a fog or mist, which slowly and gradually increases. Countenances of persons, and the type of books, appear confused; the outlines of bodies are indistinct, and the flames of candles look dim and enlarged; but the halo which surrounds them is not

iridescent. The patient also sees objects best which are not immediately in front of him, but above, below, or on either side; for the same reason as that before mentioned, viz. that the opacity occupies the centre of the field of vision, whilst the circumference is comparatively clear.

Amaurosis also frequently commences by a confusion of vision, which is sometimes sudden, at other times increases gradually; but, generally speaking, the patient describes that when looking at the flame of a candle or other luminous object, the flame appears broken and scattered into rays, which present more or less of the prismatic colours. Not long since I saw a man, the subject of amaurosis, who stated that one of the first symptoms he experienced was, that all objects appeared of a beautiful mazarine blue colour.

Has the patient observed any black spots or flashes of light at any time?

The obscurity of vision is frequently the only symptom complained of in cataract, although at times *muscæ volitantes* and corruscations of light are perceived. This is unfavourable, as showing that the choroid and retina are more or less implicated. In amaurosis, *muscæ* and scintillations are almost constant symptoms, and frequently the patient complains of headache, a weight over the brows, vertigo, or disorder of the digestive organs. But in glaucoma, in addition, there is generally severe pain about the supra-orbital notch, which extends across the forehead, down the side of the nose, or over the temporal region.

The movements of the iris are of material importance in assisting us in our diagnosis. In cataract, the pupil contracts and dilates freely and actively under the influence of light; and the eyes of the patient are directed towards an object in a perfectly natural manner.

In amaurosis and glaucoma, on the contrary, the movements of the pupil are sluggish and limited, and it is often preternaturally fixed, generally in a state of dilatation. At the same time there is a staring unnatural appearance of the eyes, which cannot fail to strike the observer. If belladonna be applied to an eye healthy in other respects, except as regards cataract, half an hour is generally sufficient to produce complete dilatation of the pupil: in an

amaurotic eye very little effect is produced even after the lapse of several hours.

The colour of the iris must not be overlooked. Is it at all altered, or has it undergone any change indicating inflammation?

The form of the pupil, too, must be carefully noted. In cataract we should expect to find it perfectly natural, but in an early stage of glaucoma it loses its circular form, and becomes irregular and dilated, the direction of the dilatation being (as Mr. Tyrrell remarks), in a great majority of instances, upwards and inwards, towards the trochlea of the superior oblique muscle. Next in frequency, the elongation takes place upwards, occasionally upwards and outwards, and very rarely downwards.

I now come to the consideration of a point of great importance, namely the appearances presented in the interior of the eye: and to recognize, and correctly discriminate these, in all their varieties, requires much experience, and much sound judgement.

The appearances most likely to be confounded with cataract, are those presented by glaucoma, and a peculiar condition of the choroid or vitreous humour occasionally observed in the eyes of old persons, but which is scarcely to be considered as constituting a morbid affection.

Cataracts in the elderly person are almost invariably hard, and commence as a slight greyish opacity in the centre of the crystalline lens, which is shaded off and lost in the surrounding transparent structure. After a time this opacity increases, imparting a cloudy appearance to the pupil, instead of its natural clear black aspect. In the primary stage, however, the change is frequently not perceptible until the pupil has been dilated with the belladonna. As the disease advances, the colour changes to an olive or amber tint, and the central spot becomes more distinct. The depth of the amber colour varies much; but the more marked it is, the more characteristic is it of the hardness of the cataract, the density of that body bearing a direct ratio to the depth of the amber colour. This is the description of the progress of a common hard lenticular cataract; but it is not unusual to find that the opacity of the lens does not increase thus regularly, but by portions at a

time, opaque radii being developed, and extending from the centre to the circumference. In those cases before alluded to, where the change commences at the margin, similar striæ are developed, all of which tend from the circumference to a central point in the lens. In process of time the intervals between these striæ become clouded, and thus the whole lens is converted into an opaque mass.

In another description of cataract, and that which is most common in the earlier periods of life, the lens continues soft. The characteristics of this species are, its peculiar bluish white colour, (which has been aptly compared to London milk), the glistening spermatic-like surface which it presents, and its being confined to persons under the age of forty.

In hard cataracts the lens is generally diminished in size, and is situated at some distance behind the pupil, a distinct space being perceptible between them and the iris casting a shadow upon the cataract. Soft cataracts, on the other hand, appear of large size, and are frequently in immediate contact with the iris, filling up the pupil as it were. Indeed, they sometimes cause the iris to project so as to assume a convex form, and to encroach upon the anterior chamber.

A third species of cataract is denominated "fluid," from its soft and cream-like consistence. The colour of these cataracts is a yellowish white, the structure homogeneous, and the surface devoid of that glistening pearly aspect which has been described as existing in soft cataracts. Moreover, if the eye be examined whilst the patient is in the erect posture, and the cataract viewed laterally or obliquely, the lower portion of it will be seen to bulge out, from the gravitation of its fluid contents.

The capsule of the lens may become opaque either in one or more spots; and I have seen instances where one-half has been affected, and of a dense white, whilst the other half has remained perfectly transparent, the line of demarcation being sharp and defined. These capsular cataracts present a dense chalky surface, which does not reflect the light; and they may also be easily recognised by their position being immediately behind the iris, and filling up the pupil. I have stated that soft

cataracts sometimes project in this way, but in them the opacity may be distinctly seen to be situated in the actual substance of the lens; whereas, in those cases where the capsule is the seat of the disease, the opacity may be clearly recognised as being on the surface of the lens.

I may conclude this brief description of the symptoms of cataract with the remark that the amount of vision which the patient enjoys is always in direct relation to the degree of opacity of the lens; and that even when the opacity is at its height, and the cataract fully formed, light can always be distinguished from darkness: whereas, in amaurosis and glaucoma, the visible changes bear no proportion to the defect of vision, inasmuch as the most perfect blindness and insensibility to light, however strong, oftentimes exists, although there may be only a very trifling discolouration of the pupil discernible.

The alteration in colour of the pupil in elderly persons, is rather to be considered as one of those changes incident to age than a morbid affection. The pupil loses its lustrous black aspect, and in place of it we see a greenish, yellowish, or olive hue, which, in many cases, closely resembles that of incipient cataract, or glaucoma. We are guided, however, in our diagnosis, by the absence of any thing like the symptoms characteristic of these affections. There may be some degree of impairment of vision; but even that is not necessary, and the patients are perfectly unconscious of any uncommon appearance existing in their eyes.

The derivation of the word glaucoma, from *γλαυκος*, is expressive of its peculiar characteristic, the greenish hue which the pupil assumes, and which may easily be mistaken for incipient cataract. It is, therefore, of the highest importance to bear in mind the points of diagnosis between them.

Cataract, I have said, commences and runs its course without pain or other symptom than mere gradual extinction of vision. The first symptoms of glaucoma are the appearance of flashes or scintillations of light; and these are speedily followed by, if not accompanied from the first with, more or less pain in the supra-orbital notch. Confusion of vision, and the

loss of the power of adapting the eye to near and distant objects, are the next symptoms, and objects frequently assume a distorted form. Rest and quietude mitigate these symptoms; whilst they are aggravated by anything which agitates the mind or excites the circulation, as mental emotion or violent exercise. Upon examining the eye we find there is a greenish or yellowish green spot visible through the pupil: this is evidently deeply seated, quite at the posterior part of the organ, so that if the eye be looked at laterally we lose sight of it; it also shifts according as the light falls upon it, and we change our position: for instance, if we look at it obliquely, from the nasal side, it appears situated on the temporal side; if from the temporal, on the nasal side.

After a time, however, the disease extends to the lens itself, and a cataract forms; but that also partakes of the muddy green or yellowish hue, and will most probably be accompanied with dulness and change of colour of the iris, distortion of the pupil, and other symptoms of disorganization.

To sum up the points of difference between cataract and glaucoma—

Cataract is accompanied by pain or flashes of light; the amount of vision is in an inverse proportion to the degree of opacity; the colour is at first whitish or greyish; the opacity is never very deep in the eye, and, however it may be regarded, always occupies the same position; the pupil is regular; the eyeball is of natural consistence; and vision is best in a moderate light.

Glaucoma is always accompanied by pain, frequently very acute, and by flashes and coruscations of light; the vision is greatly impaired when but little opacity exists; the opacity is very deeply situated, and shifts its position according to the incidence of light; the colour is always more or less of a greenish tint; the pupil in an early stage becomes altered in figure, and a powerful light materially improves vision; the globe of the eye feels firmer and more tense than is natural.

I believe that I have not omitted any point of importance in this recapitulation.

This paper would be incomplete if I did not make mention of the catoptric examination which has been proposed by Professor Sanson, and which is very

fully described in Dr. Mackenzie's excellent treatise on the Diseases of the Eye.

The mode of proceeding is as follows:—The pupil of the affected eye is to be dilated with belladonna, the patient seated in a chair with his back to the light (which must be moderate), and a small taper, which burns steadily, made use of by the surgeon, who stands in front of his patient.

When a lighted candle is moved before a healthy eye, at the distance of a few inches, three reflected images of it are seen: namely a clear erect one from the cornea; a deeply-seated, magnified, but dim one from the anterior surface of the crystalline lens, which is also erect; and a very minute *inverted* one, which appears between the two former, and is reflected from the posterior surface of the lens. The latter always moves in a contrary direction to that of the candle; that is to say, to the right if the candle be shifted to the left; upwards if the candle be lowered.

In cataract and glaucoma the superficial erect image, which is formed by the cornea, undergoes no change. Cataract, even at an early stage, obliterates the inverted image, and renders the deep erect one very indistinct. Glaucoma only when much advanced obliterates the inverted image, while in all its stages it renders the deep erect one more evident than it is in the healthy eye. In incipient glaucoma, then, both the deep erect and the inverted images are distinct; the former being of a yellowish colour, and somewhat brighter than in the healthy eye.

In incipient cataract the inverted image is indistinct, and the outline confused, and the deep erect one is also much obscured.

In amaurosis, on the other hand, whatever state it may be in, the three images are always distinctly visible.

The inverted image is obliterated when only a moderate degree of opacity of the lens exists—a point of great importance to be borne in mind in the diagnosis of cataract, and is decisive as regards amaurosis.

1, Suffolk Place, Pall Mall East,
Oct. 11, 1841.

ON THE TREATMENT OF DISEASES OF THE PROSTATE GLAND.

BY R. A. STAFFORD, ESQ.

Surgeon Extraordinary to H. R. H. the Duke of Cambridge; Senior Surgeon to the St. Mary-le-Bone Infirmary; &c. &c.

To the Editor of the Medical Gazette.

SIR,

HAVING done me the honour, in a late number of your valuable journal, to review a little book of mine, entitled "An Essay on the Treatment of some Affections of the Prostate Gland," I beg to send some cases of that disease for publication, which I hope will interest your readers, and increase the good opinion you then were pleased to express of the treatment adopted.

Your obedient servant,
R. A. S.

28, Old Burlington Street,
October 1841.

CASE I.—James Farrel, æt. 70, was admitted into the St. Mary-le-Bone Infirmary, September 18th, 1840, with retention of urine, caused by an enlarged prostate gland. The prostate, on examination, was found to be as large as a pullet's egg; and it could be felt protruding into the rectum. The symptoms this man had laboured under for a year or two before the present attack, were great difficulty in voiding his urine, a feeling that he never emptied his bladder, and a constant desire to make water, more especially at night. He also had experienced pain at the neck of the bladder, a dull heavy pain in the perineum, and the urine was foetid and of a highly alkaline quality.

He was ordered to use a suppository containing three grains of the Potass. Iodidi, five grains of Extract. Hyoscyami, and five grains of Extract. Conii, night and morning; to draw off the water twice a day; and to pass bougies, charged with the Pot. Iodidi, daily. This treatment was continued for a month, when he made water of his own accord; only, at first, partially emptying the bladder.

The strength of the remedies was increased *gradatim*, up to ten grains of the Iodide of Potash. The prostate became gradually reduced in size; and as it lessened, the powers of the bladder

increased. In six months the gland was diminished to the size of a moderate walnut; and the man found no difficulty in making water, and could, with the exception of an ounce or two, discharge the whole contents of his bladder. He went away from the Infirmary quite well, and has remained so ever since.

CASE II.—Mr. S. G.—, æt. 44, had, for more than six months, experienced a great difficulty in voiding his urine; and although he could make a certain quantity, yet he could never quite empty his bladder. This difficulty increased, until at length he had complete retention; and he was obliged to apply to his surgeon for relief. A catheter was passed twice every day, but no improvement took place in his symptoms. Being much alarmed, and fancying he had stone in the bladder, he came to London, and placed himself under my care.

On examining him, I found he had an enlarged prostate gland, each of the lateral lobes being about the size of a large walnut, and the middle lobe could be distinctly felt enlarged as the catheter entered the bladder. He complained of great fulness about the neck of the bladder, and pain in the perineum; but with the exception of these, and having alkaline urine, he had no other symptom.

On November 13th I ordered him to apply a blister on the loins; to use a suppository, containing three grains of the Iodide of Potash, night and morning; and to have passed Iodine bougies (Pot. Iod. gr. v. ad. Ung. Cet. 5j.) The urine also to be drawn off night and morning.

15th.—Much the same.

17th.—Still going on well; less pain, but made no water.

18th.—Made a little water three times, but on drawing off the residue the bladder contained a pint. Treatment the same.

21st.—Still improving; makes four ounces of water about twice or three times daily. Ordered

Four grains of the Iodide of Potash, as a suppository, combined with six grains Ext. Hyoscyami and Ext. Conii each, three times a day.

Goes on with the bougies charged with Iodide of Potash, and which cause a stinging pain at the third lobe.

23d.—Still improving; making half a pint of water at a time.

25th.—Being so much better, and the prostate gland being much diminished, I allowed him to go home, and place himself under the care of his own surgeon, at Kintbury. The same treatment exactly was continued; and on December 3d I was obliged by the following account from his attendant, Mr. Lidderdale.

“Mr. G. is better than when he left London. He is enabled to pass water much better. Yesterday he made as much as he usually did previous to this attack without the assistance of the catheter. I continued the plan you proposed, and quite agree with the principle. The urine that is now passed is of a healthy character. The prostate gland is still enlarged, but not so much so as when he came home. His general health is improving.”

Not having heard from him since I conclude he has perfectly recovered.

CASE III.—Mr. M. æt. 57. From his 50th year he had suffered from a bruised sensation in the perineum, afterwards extending down the inside and back of the thighs. He has also suffered much from pain in the sacrum and in the bones of the ischii. These pains have more or less increased, and more particularly the bruised sensation, amounting almost to the soreness after a blow. He has had great irritation of the bladder, and desire to void urine frequently, and feeling generally uncomfortable in the urinary organs. I examined his prostate, and found the right lobe much larger than the left; being as large on that side as the whole prostate in its normal state.

April 1st, 1841.—I advised

R. Pot. Iod. gr. i.; Ext. Hyoscyami, gr. x.
M. fiat Suppos. omni nocte utend.

April 6th.—Felt somewhat better. A grain of Pot. Iod. was added to the suppository. From this period the Pot. Iod. was increased, grain by grain, as the patient could bear it.

April 26th.—I examined the prostate, and it had decreased in size one-third. The Pot. Iod. was still continued, increasing its quantity until it amounted to ten grains.

May 20th.—The prostate was reduced nearly to its natural volume, excepting that there was a protuberance on the right lobe, about the size of a Spanish nut. The pain in the perineum had nearly subsided, and the

bruised sensation about the sacrum and thighs was much lessened.

June 10th.—The protuberance in the right lobe was much diminished. The treatment continued.

July 8th.—The enlargement of the prostate was quite reduced, and the gland was of its natural size.

I found it necessary in this case to diminish the quantity of Pot. Iod. occasionally, as it caused irritation of the rectum.

CASE IV.—Mr. W. consulted me, labouring under the following symptoms:—He suffered from great pain along the right spermatic cord, extending down to the epididymis and testicle; pain and a sense of fulness at the neck of the bladder, and a constant irritation from a desire to make water: he had had one or two attacks of gonorrhœa, succeeded by stricture, but these were now well. On passing a bougie it went completely through the urethra; but when it arrived at the prostatic portion its point was obstructed, as if it pressed against a solid body, and it could not be made to enter the bladder. The solid body was exactly in the situation of the third lobe of the prostate gland; and, from the result of the treatment, I conclude that this portion of the gland was enlarged. I passed iodine bougies for two or three months, and the part gradually became absorbed, and I could with ease pass a large solid instrument into the bladder without meeting with any impediment. He lost all his unpleasant symptoms, and is now perfectly well.

CASE V.—By the advice of his surgeon, Mr. S., æt. 71, applied to me in May last. He had for some time past suffered from extreme irritation at the neck of the bladder, and a frequent inclination to void urine; having also a dull heavy pain in the perineum. From the constant necessity he is under of being obliged to rise from his bed to make water, he gets but very little sleep, and consequently his health is very much impaired. There being every reason to believe that the prostate was affected, I examined him, and found that the body of the gland was generally enlarged, and the left lobe more particularly so, feeling at the same time extremely indurated.

I advised him to use the iodide of potash suppositories every night; and to take five grains of the extract of

hyoscyamus, combined with soda, twice every day. He went into the country, and followed this plan, and returned to me in a month or five weeks. He was much better, and the gland was considerably reduced. He continued the same treatment, and called upon me in another month. He was very much improved in health, and had lost the symptoms of irritation at the neck of the bladder, and the pain in the perineum. The prostate was less, but still there was enlargement and hardness, more particularly at the left lobe. He called upon me again in August, when I found the gland reduced to its natural size. The symptoms of pain in the perineum, the frequent desire to make water, and irritation at the neck of the bladder, were gone. He had good nights, and from being debilitated and emaciated, he became quite active, and was in good spirits, and had increased considerably in weight.

CASE VI.—Michael Hines, aged 71, was admitted into the St. Marylebone Infirmary, June the 7th, 1841, with retention of urine, brought on by an enlargement of the prostate gland. He had not passed any water for several hours, and was suffering extreme pain from the over distension of the bladder. Two years previous he had been treated in one of the London hospitals for the same complaint, and obtained some relief; but since that time he has found a difficulty in voiding his urine, and could never evacuate the whole of the contents of his bladder. On making an examination of the prostate gland, it was found to protrude into the rectum, and was as large as a hen's egg. With considerable difficulty, and after many attempts, a catheter was introduced, and a pint and three quarters of fœtid alkaline urine drawn off. A catheter was left in the bladder, an aperient draught taken, and four grains of potass. iodidi, with ten grains of extract of hyoscyamus, were made into a suppository, and used twice a day. He wore the catheter a fortnight, continuing the suppositories, and at the end of that time it was passed night and morning. In five weeks from the time of his admission he began to pass his urine naturally, and has continued to do so until the present time, three months from his first coming into the hospital; the potass. iodidi having been increased to ten grains. Under this treatment

the prostate became reduced to its natural size; and the patient left the infirmary Sept. 3, 1841, quite well, and passing his urine freely.

These cases appear to me to speak for themselves, and require but few observations. It may be remarked, that the first and last were the enlarged prostate of old age, when the patient is usually doomed to pass a catheter for the rest of his life, and to suffer the pain and distress of a constant desire to void urine, followed by disease of the bladder and kidneys, and the breaking up of the whole machinery, terminating in a miserable death.

The second case, although the subject of it was only 44 years of age, may be said to be of the same description. The symptoms were the same, and the gland was equally enlarged, forming a mechanical impediment to the expulsion of the urine. The other cases are enlargement of the prostate in its different stages before retention of urine occurs. There is but little doubt that had these been allowed to go on, the enlargement would have increased until the urine would have been retained. The remedies employed have always been attended by the most satisfactory result, and I have as yet had no case where they have not succeeded.

REMOVAL OF THE SUPERIOR MAXILLARY BONE.

To the Editor of the Medical Gazette.

SIR,

As the subject of the following case has now remained well for a year since the operation, I think I am entitled to ask you to insert it.—I am, sir,

Your obedient servant,

JAMES DOUGLAS,

Lecturer on Anatomy at the Medical School, Portland Street, Glasgow.

Glasgow, Oct. 16, 1841.

Adam Tennent, æt. 19, machine-maker. Oct. 11th, 1840. Growing from under surface of palate, on left side, is a tumor about the size of a cherry, covered with the mucous membrane. It is quite soft, and fluctuates, so that when he applied for advice at a dispensary on the 9th, the medical officer thought that there was matter

in it, and had it punctured, when no matter was found, but nearly two pints of blood (he says) flowed, before the hæmorrhage could be arrested. A hard swelling is felt above the alveolar process of the incisor and canine teeth of left side of upper jaw. No pain in tumor, except on pressure.

Attention was drawn to the disease between two or three months ago, when he first remarked a swelling in his palate. Pulse 96; general health good.

I immediately told him that it was a dangerous disease of the bone, and would require a severe operation for its removal, when he returned for answer, that "if it must be done, he would have it done to-morrow." I desired him to take to-night a dose of Epsom salts.

Oct. 12th, 1 P.M.—I proceeded to the operation, assisted by Drs. Lawrie and Flemings, and Mr. Garroway. On the supposition that the tumor grew from the palatine plate of the superior maxillary bone, and implicated the alveoli, I proposed to remove a triangular piece, including the tumor, from the first incisor to the second bicuspid, on the left side. These two teeth were accordingly extracted. The patient was seated in a chair, his head supported by a friend, and I stood before him.

I made an incision from a little below the inner angle of left eye, down into left nostril, and on through upper lip, in the left ridge of the filtrum; rapidly dissected back the flap as far as where the bicuspid was extracted, passed the knife along the floor of the nose and roof of the mouth, nearly in the middle line, divided the nasal process transversely, the palate plate perpendicularly close to the mesial line, and the body of the bone perpendicularly below and transversely above, all with a strong pair of Liston's bone forceps. The bone was now easily turned down and removed. This part of the operation did not occupy above a couple of minutes. Some wine and water was now given. The bleeding was very moderate.

On examination of the piece removed, it was seen that the antrum was nearly filled with grey fibrinous looking matter, growing from the lower part of the bone, and that a part of the tumor along the mesial line had been left. The first molar tooth was therefore

removed, and the remainder of the maxillary bone extracted, except the last two alveoli, the bone forceps being passed transversely between it and the malar bone. The central incisor of the right side was now extracted, the soft parts round septum of nose divided, the skin being held back, and then the palate plate of right side nipped through with the forceps and removed, together with the bones. On careful examination both of the wound and of the part taken away, a clean surface seemed now to have been obtained. The soft palate remained untouched.

One artery behind, probably the palatine or infra-orbital, was tied, and the actual cautery was freely applied to the bleeding surface. The patient bore the operation with great fortitude, and at this stage rose up and stood quite firmly. Not more than eight ounces of blood were lost. The whole, including the careful examination of the pieces removed, occupied about half an hour.

The cavity was now filled with wetted lint; two needles with the twisted suture were passed through lip, and three other points of interrupted suture, with two strips of court-plaster, on the cheek.

He was put to bed, and had sixty drops of laudanum.

On examination of the parts afterwards, the tumor was found to be soft and spongy, of a grey colour, with white streaks running through it, so as to be clearly of that kind which softens and passes into medullary sarcoma. I was glad to find that the bone when divided was healthy, allowing the lining membrane of the antrum to be peeled off, except where the palate plate was softened and perforated.

Oct. 13th.—Last night was feverish, and had some headache. Pulse 120, full and bounding. Had sixty drops more of laudanum, and slept four or five hours. Feels comfortable this morning; skin cool; pulse 100, soft; headache gone. To take tea from a jug with a spout.

15th.—Bowels freely moved by some castor oil. Feels well; face a good deal swollen; no discharge; cut of face appears united; needles removed.

16th.—Stitches removed. To have some beef-tea.

17th.—Lint removed from cavity, and nose sponged with tepid water.

Sat up, and had bed made. Walked out on the tenth day.

Nov. 25th.—The filling up of the cavity has gone on regularly. The cheek is now quite firmly adherent to malar bone, and great part of the space occupied by the bone removed is filled with healthy granulations. A ligament is felt stretched across behind lip to alveoli of right side, forming a sort of border to the mouth, in place of the alveoli which have been removed, and preventing the lip from falling in so much as was expected. The opening behind this admits only the point of the finger; it leads up to a cavity behind cheek, and septum of nose and middle spongy bone are seen through it. No pain, and very little matter, discharged now. Works nearly all day.

Jan. 24th, 1841.—Came to shew me a new jaw, made by Mr. Young, dentist, St. George's Place. It fits in very neatly, and gives the natural fulness to the upper lip. It closes the palate, so that he can eat and speak with ease. It is made of hippopotamus tusk, and real teeth are set in it, and is fixed with gold springs to the teeth of right side.

Oct. 13th, 1841.—It being now a year complete since the operation, I sent for him to see how he continues. He looks well and healthy, and not at all disfigured, the incision in the hollow by the side of the nose being scarcely visible. The opening from mouth to nose is so small now, that it does not admit the point of the little finger. The wisdom teeth have appeared since the operation.

A fortnight ago I performed a similar, but much more severe, operation, removing *the whole* of the right, and above one-third of the left upper jaws. I will send the result to the *GAZETTE* when a sufficient time has elapsed to enable me to judge of the result, for the case was a much more unfavourable one than this.

FATAL OBSTRUCTION OF THE BOWELS.

To the Editor of the Medical Gazette.

SIR,

If you think the following case, which to me appears highly interesting, worth

a place in your journal, you will oblige me by inserting it.—I am, sir,

Your obedient servant,

PHILIP B. AYRES, M.D. Lond.

Oct. 1841.

Friday, Oct. 8th, 1841.—I was called, about 10 A.M. to see R. T., a man of about fifty-five years of age, who was stated to have become imbecile in consequence of an attack of fever, from which he suffered a few years since, which was accompanied, in all probability, by phrenitis. I found, on inquiry, that he had a large old hernia, for which he could never be prevailed on to wear a truss; together with great tympanitic distension, without much tenderness of the abdomen. My first idea was, that the hernia was strangulated; but on using the taxis it was easily reduced. There was no complaint of sickness, or vomiting, at this time, which would have been the case had the hernia been strangulated. The countenance showed considerable anxiety, and the respiration was impeded by the distension of the abdomen. The tongue was pallid, not particularly furred, and cold; the pulse 80, but very weak. It was stated by his attendant that he had been out the previous day into the fields, and eaten a quantity of sloes; that he had taken his supper on the previous evening in his usual manner, without complaint; but about twelve o'clock P.M. he had called for her, complaining of pain and distension in the bowels, which had gone on increasing until the time I saw him. The bowels had been relieved the preceding day (Thursday.) Under these circumstances I gave him a dose of calomel and colocynth, and a saline purgative to be taken every four hours.

I next saw him at 6 P.M., when I found the pulse imperceptible at the wrist, and the heart's action very weak; the countenance haggard; the abdomen very greatly distended and tympanitic; the breathing rather irregular, and very much oppressed; thirst had been great during the day, and still continued; slight retchings had occurred, without any evacuation of the contents of the stomach, and no motion. He was now ordered a turpentine enema, and a pill containing a drop of croton oil. The enema was administered by my pupil, Mr. Bartlett, who observed that the hernial sac was empty and flaccid at

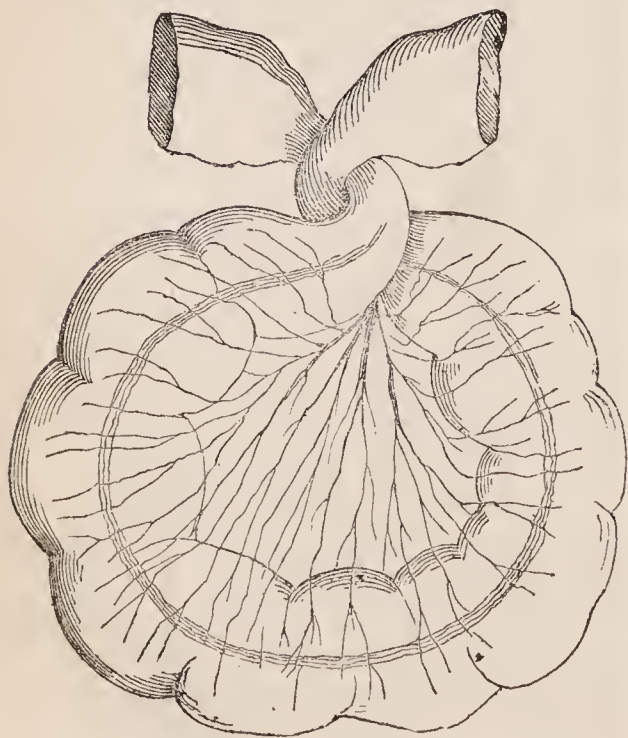
that time. The pill was also given; but he died within a very short time after Mr. Bartlett left him.

Autopsy fifteen hours after death.—Before we opened the abdomen, the question arose, what was the cause of these symptoms which coexisted with a very large scrotal hernia? They could not be referred to the hernia; since not only could the contents of the distended hernia be returned into the abdomen, but a greater part, if not the whole, of the intestine pushed up by moderate manipulation. Coupling the fact of the enema bringing away no fecal matter with the enormous distension of the abdomen, I was of opinion that there was either intus-susception, or twisting of some part of the intestine—an opinion which was afterwards fully verified.

The general appearance of the body was that of a man of fifty-five, somewhat emaciated; the chest was large, and the abdomen extended to its utmost extent. The hernia was equally inflated, and was about a foot in length, with a proportionate circumference. As the immediate cause of death evidently lay in the abdomen, that cavity and the hernia were alone examined. The abdominal cavity contained about half a pint of dark bloody fluid, which had apparently exuded from the congested intestine. On turning the abdominal walls aside, the whole of the colon was found enormously inflated, and projecting beyond the cavity of the abdomen when the external pressure was removed. Two large portions of intestine were placed almost perpendicularly at the upper part, and projected upwards beneath the sternum, pushing up the diaphragm to such an extent that no trace of the edge of the liver was visible. The portion on the right side was almost black from congestion, and in a state approaching sphacelation; but no perforation existed. That on the left was much congested, but merely of a dusky tint. I at first mistook the latter for an enormously inflated stomach. Before examining these parts further, and disturbing the intestines, I turned to the hernia, with a view of ascertaining its state and contents. This was evidently an old oblique inguinal hernia, which, by constant distension in consequence of the man wearing no truss, had caused the conversion of the in-

guinal canal into a simple direct foramen of large size. The coats of the hernia had become amalgamated, so that after the superficial fascia had been divided on a director, as in the operation for hernia, the remainder seemed to form one indistinguishable covering, in which I could discover no trace of the fibres of the cremaster.

Having laid bare the intestine, I found the hernia to contain simply the cæcum, with its appendicula, and a very small portion of the ileum. The cæcum was perhaps somewhat congested, but not either dusky or dark in colour; and the opening from the abdomen to the hernial sac so large that the hand could be almost passed through it. There was then no incarceration of the hernia, nor could we consider it otherwise than an accidental complication of the case. I then returned to the cavity of the abdomen, but before we could enter into any detailed examination of the parts it was necessary to evacuate the air that distended the intestines, which was done by a few punctures of a needle. Having partially emptied the intestines I was enabled to move them, so as to ascertain the cause of these appearances. I found that the whole of the transverse colon had been displaced and twisted in such a manner that it required to be twice reversed before the parts were placed in their natural position; as may be seen in the accompanying hasty and rough sketch.



The portion of intestine between the twisted points was, I should guess, at least twelve or fourteen inches in length,

and was distended to the utmost possible extent, short of bursting. The portion lying on the right side of the abdomen was indeed the ascending colon, but it required to be turned behind the other to the right, and again brought before it to the left, before it resumed its natural position. This part was the most congested, and almost black. That lying on the left, which I at first mistook for the inflated stomach, turned out to be the descending colon; for I afterwards found the contracted stomach hidden beneath the ribs, and pushed very high towards the cavity of the chest, by the distended state of the colon. The liver was in the same way totally hidden beneath the false ribs. The duodenum, like all the other parts of the intestinal canal least affected by the twisting of the colon, was slightly congested; but as we traced the small intestine towards the cæcum, the congestion increased, until the lower part of the ileum presented a very dark appearance. The sigmoid flexure of the colon was not much affected, and the rectum and bladder were empty. The portion of colon included in the twist contained a large quantity of fæcal matter, sufficient almost to fill a common chamber utensil, in which floated a number of the sloes the man had eaten while in the field on the previous day. The fæcal matter could be squeezed, by considerable pressure, through the twisted portion of gut backwards into the cæcum; but it was evident that the muscular fibres of the colon did not possess sufficient power for this purpose. The portion of colon immediately included in the twist was so much constricted that the fore-finger would scarcely pass through it, and did not recover its natural calibre on subsequent inflation. Such is as clear an account of the post-mortem examination as I am able to give.

Contortions of knuckles of intestines are by no means rare; but what is remarkable in this case is the great length of the intestine included between the twist. The presence of the cæcum in the hernial sac is also uncommon, although such cases have been recorded; nor can any connexion be established between the two circumstances, because the cæcum has in other cases descended into the hernial sac without having any contortion of the intestine for its result.

ON
DEFORMITY OF THE CHEST FROM
DYSPNŒA.

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To the Editor of the Medical Gazette.

SIR,

THE following observations relate to the case of a child, who was admitted into the Middlesex Hospital on the 11th of this month, in a comatose state, and suffering from violent dyspnœa. As the history obtained from the friends who accompanied the child was obscure, and the patient was threatened with immediate suffocation, tracheotomy was performed: but the patient did not survive more than twelve hours. On dissection, lymph was found in the trachea, and in the larynx on the lips of the *cordæ vocales*. As the reflections to which I was led from witnessing the phenomena of the child's breathing, point to conclusions which may be considered interesting, I venture to send them for insertion in your journal.

I am, sir,

Your obedient servant,

ALEXANDER SHAW.

23, Henrietta Street, Cavendish Square,
October 23, 1841.

Observations on the child's breathing.—The breathing of this little patient offered an interesting illustration of the effects of the action of the diaphragm upon the forms of the ribs, in laborious respiration.

The breathing was what is called *abdominal respiration*: that is, while the chest, or its principal part, was fixed, the abdomen and diaphragm were in busy, over-wrought exercise.

Such may be taken as a general description of the breathing. But what principally drew the attention of all who witnessed the struggles of the child was, that at every inspiration, an extraordinary constriction of the thorax took place, near its lower margin.

Each time that the patient drew in his breath, endeavouring to inflate his lungs, there was a sinking inwards of the sides of the chest, and a deep indentation, about three inches above the lower free margin of the thorax. So considerable was the constriction, that I am not incorrect in saying that, measuring from what might be supposed to be the natural level of the thorax, the hollow may have been as much as three-

quarters of an inch in depth. The indentation followed the curved line that corresponds with the junction of the cartilages with the extremities of the false ribs. It was only observed during inspiration; for, when expiration took place, the ribs, by their elasticity, expanded, and obliterated the constriction.

As to the upper part of the chest, it was particularly full and prominent, being elevated and expanded apparently to its greatest extent. It was also observed that this part was without any perceptible motion. It did not, as in common breathing, rise and fall in correspondence with the action of the diaphragm, but remained elevated and fixed even during expiration. The projection of the sternum and of the front of the chest generally, was so considerable, that the breast was actually gibbous: it presented the form of the chest so commonly seen in children said to be "pigeon-breasted."

From watching the child's breathing, it was obvious that a very small quantity of air was admitted into the lungs. This was judged to be the case, both from the feebleness of the current of air entering the mouth and nostrils, and from the sound heard on putting the ear close to the larynx: there was a faint, scarcely audible, wheezing and siffling sound, that seemed to indicate that the chink of the glottis was all but completely closed up. The child had ceased for some time to be able to expectorate; and, notwithstanding its struggles, could not utter a sound of complaint; in fact, the perfect silence of the sufferer during the protracted operation, had an inexpressibly painful effect on the feelings of the bystanders.

As soon as the tube was introduced into the trachea, and the breathing became tranquil, the chest was restored to its natural form; the upper part ceased to be so much elevated as it had been; and the constriction below disappeared*.

After noticing the above phenomena, it becomes a question of considerable interest—what could have given rise to the remarkable sinking inwards of the

* I may state that in a child on whom I had to perform laryngotomy several months ago, owing to threatened suffocation from the effects of swallowing boiling water, I observed a similar condition of the chest to that described in the text; but I omitted to take notes of the case.

lower part of the chest, during each act of inspiration, in this patient? When, considering the laborious condition of the respiration more particularly, we should have expected to find every part of the chest, each time that the child inspired, both elevated and expanded to the greatest possible extent, how did it happen that, at each inspiration, instead of the ribs being dilated, the extremities of all the false ribs were drawn in, so as to imitate the act of expelling the air, and produce a visible constriction, amounting to a deep indentation, in the sides of the chest?

When I first observed the constriction, it reminded me of the appearance of the chest presented in Mr. S——, whose case is related by me in one of the former volumes of the *MEDICAL GAZETTE*, and has been introduced by Sir Charles Bell into his work on the Nervous System*. In this patient, although the affection had a totally different origin from that of the child, there was a drawing inwards of the lower margin of the chest, and constriction of the waist, resembling considerably the appearance which I have described in the child. When offering an explanation of the condition of the thorax in Mr. S——, I was led to conclude, that the sinking inwards of the border of the chest was an effect of the fibres of the diaphragm acting, in a peculiar condition of the other muscles of inspiration, upon the lower cartilaginous border of the thorax to which they are attached. It has to be remarked, that in the natural action of breathing, owing to the mobility of the margin of the chest, and to the fibres of the diaphragm which arise from it converging to be inserted in the central tendon, there is a tendency in the cartilaginous border, each time that the diaphragm contracts, to be operated upon as a moving part, and to be drawn inwards, in the direction of the central tendon. But this drawing in of the flexible boundary of the chest, during the act of inspiration, it need scarcely be said, if allowed to take place, would be an imperfection; inasmuch as the transverse diameter of the thorax would be diminished, and the cavity of the chest contracted in size, when it was the object to dilate it

in every direction*. The occurrence is guarded against by the intercostal muscles, assisted, at certain times, by the large muscles that lie upon the outside of the thorax, not only elevating the ribs, but, by a partial rotation of them, expanding them laterally, and holding the margin of the thorax firmly out, so as to resist the fibres of the diaphragm acting in the direction of the centre. It may readily be conceived, however, that if, owing to some peculiar nervous derangement, the muscles whose office it is to dilate the border of the chest, and in that respect antagonize the diaphragm—were deprived of their natural power, while the diaphragm continued to act with its usual force, the fibres of this muscle, by contracting from the central tendon as their origin, upon the pliant ribs as their insertion, would have the effect of pulling the free margin of the chest inwards, and causing a constriction of the waist to take place. In the case of Mr. S——, it was observed, by carefully attending to the state of the muscles on the outside of the chest, that they were incapable of combining with the diaphragm in the associated action referred to; that, so far as that peculiar office was concerned, they were paralysed. Hence the conclusion was drawn, that it was owing to this defect, and the absence of opposition on the part of the muscles which elevate and dilate the chest, that the constriction of the waist was produced by the action of the diaphragm. Now, when a similar sinking in of the lower part of the chest was presented in the child the subject of these observations, I was at first led to believe that the appearance might be explained in nearly the same manner. The intercostal muscles, and their auxiliary muscles situated on the outside of the thorax, I supposed, although not deprived of their natural power, might, nevertheless, considering the violently laborious condition of the child's breathing, be too feeble to resist the action of the central fibres of the diaphragm. Remembering the flexibility

* *MED. GAZETTE*, January 7, 1833; Nervous System, 1836, p. 427.

* There would also be an imperfection in the act of expiration. As the diaphragm relaxed, the ribs would be relieved from their previous constriction: they would consequently start outwards by their elasticity, and thereby cause more or less *dilatation* of the chest to take place at a time when it was the object to contract the cavity of the chest.

and pliancy of the chest in a child so young, it did not seem improbable that the muscles alluded to were unable to hold out the margin of the chest against the powerful operation of the fibres of the diaphragm dragging it inwards; and that the constriction observed each time the diaphragm contracted, resulted from that cause.

But, reflecting more maturely on the appearances, I am now induced to think, that, in order to make the explanation satisfactory, another interesting circumstance must also be taken into account.

It has been said, that, on watching the child's breathing, it appeared that, notwithstanding the labour of respiration, only a small quantity of air was admitted, at each inspiration, into the lungs. There were grounds for supposing that the rima glottidis was obstructed to such a degree that it was all but closed. Let it be granted that what was here conjectured to be the case actually happened; and that when the child endeavoured to inflate the lungs, so far was he from succeeding in doing so, that only a small quantity of air—a quantity inadequate to fill the lungs completely—entered the chest; what would be the effect on the form of the chest? Or, putting the question in other words, suppose the thorax operated upon in a natural manner, so as to have its cavity enlarged at each inspiration to its usual degree, while, at the same time, owing to an obstruction in the larynx, the lungs could not be distended so as to occupy the increased space which the expansion of the chest tended to form for them—what change would this give rise to in the form of the chest?

Is it not evident that the first effect would be, to give rise to a tendency for a vacuum within the thorax, disproportioned to the expansibility of the lungs, being produced? In ordinary breathing, the vacuum, it is well known, which tends to be formed by the dilatation of the chest during inspiration, always bears an exact relation to the capacity of the lungs for containing air. The cavity of the thorax is never enlarged to a greater extent than the lungs distended with air are capable of occupying. Hence an equal balance is maintained between the pressure of the atmospheric air within the thorax,

and that which operates from without; and the parietes of the chest, flexible and yielding as they may be, do not undergo any compression from the external atmosphere. But if the natural relation here adverted to were disturbed; if the chest and the lungs did not expand to an equal degree; if, while the chest was enlarged in its area to a large amount, the lungs were only slightly and imperfectly distended; is it not obvious that a vacuum in the space intervening between the parietes of the thorax and the lungs would tend to be produced? But if this be admitted, since we know that such a thing as a vacuum cannot be formed, we must conclude that the atmospheric air would press from without upon the sides of the chest, and by this means counteract the influence of the muscles of inspiration: the external atmosphere would compress the chest where it was most flexible and yielding, that is, at its lower and cartilaginous part, so as to produce a sinking inwards of both sides: and in this manner the area of the chest would be reduced to a size corresponding with the capacity of the lungs. Hence we might expect that, from this cause, a visible change would be produced on the form of the chest; namely, a depression on both its sides, near its lower margin.

This is the explanation which I am disposed to give of the remarkable constriction of the parietes of the chest that took place during inspiration, in the child. It may be that, to a certain degree, the appearance referred to was owing to the fibres of the diaphragm which diverge from the central tendon to the cartilaginous border of the chest, each time that the muscle contracted, pulling the lower border inwards. But I am induced to believe that the constriction resulted mainly and principally, from the dilatation of the lungs not being commensurate to the force employed in endeavouring to expand the chest; and to the more pliant parts of the thorax giving way, therefore, to the outward pressure of the atmosphere. The action of the diaphragm in enlarging the long diameter of the thorax, exceeded in power that of the intercostal and subsidiary muscles of inspiration—to which, in this case, belonged the office, not only of expanding the flexible ribs and cartilages against the undue pressure of the external air, but

of holding out the margin of the chest in opposition to the central fibres of the diaphragm. Such, I conceive, was the reason why the diaphragm was able to descend and protrude the abdomen at each inspiration; while, at the same time, the sides of the chest were drawn inwards in the remarkable manner that has been described.

I should not, perhaps, have dwelt so long on this subject, had it not appeared that the explanation here offered of the phenomena in the child's breathing, tended, and I may say rather unexpectedly, to throw light on the origin of a deformity of the chest which has not hitherto, in my opinion, been satisfactorily accounted for by any author.

It has been said that the sinking inwards of the ribs, in this patient, gave rise, each time that it occurred, to an appearance of the chest similar to that of a child said to be *pigeon-breasted*. Owing to the depression of the ribs and cartilages on each side of the sternum, that bone protruded præternaturally at every act of inspiration. Now it may be conceived that if, in consequence of some disease of a less severe nature than the complaint which carried off the child, the breathing was impeded, and the affection lasted for a considerable period, the obstruction not being so serious as to interfere sensibly with the natural functions, a want of correspondence was produced between the inflation of the lungs on the one hand, and the expansion of the chest, by the diaphragm, on the other, a change in the form and development of the chest might, in process of time, especially if the patient were young, and the bones soft and flexible, be effected, by the continued operation of the causes to which I have been directing attention. For example, it is not improbable that, if there were some habitual difficulty of filling the lungs with air, such as from any swelling situated about the larynx or trachea, obstructing the wind-pipe, the action of the diaphragm might be disproportioned to the quantity of air admitted, and the sides of the chest would be consequently pressed inwards, so as eventually to impart to it, as a permanent form, the particular shape which was seen in the child during every act of inspiration.

This idea receives a remarkable con-

firmation from the fact, that it has been generally observed that the pigeon-breasted form of the chest was a frequent concomitant of enlargement of the tonsils in children. In a Memoir treating of this particular conformation of the chest, Dupuytren has made the following remark. "One singular circumstance," he says, "connected with the deformity in question is, that we find it almost constantly accompanied with considerable enlargement of both tonsils." But he goes on to observe: "the relation which subsists between enlargement of the tonsils, and a sinking in of the sides of the chest, is a thing which we cannot yet comprehend*." I remember being much struck with the gibbous appearance of the breast in a young patient, who had been subject, for some time, to difficulty of breathing from enlarged tonsils; and in whom, owing to the urgency of the symptoms, and the impossibility of excising the amygdalæ under the circumstances, I was obliged to perform laryngotomy. But looking also generally to the question, my experience coincides with that of other observers on the subject.

Now, although it may not be satisfactory to explain the origin of the "pigeon-breasted" form of the thorax in every instance, on the principle which I have here endeavoured to illustrate, yet it will perhaps be admitted that it is a mode of explanation applicable to a considerable majority of such cases. The source of obstruction may not always be in the amygdalæ; for the same effects might proceed from enlargement of the thymus gland, or other glands situated in contact with the trachea. In conclusion, I may be allowed to express a hope that, if the observations here offered be thought well founded, they may lead to the adoption of improvements in the plans for remedying the deformity referred to; and that we may have it in our power, in a greater number of cases, to prevent the occurrence of so important a defect in the growth of young persons, as a want of the proper development of the lungs and of the parietes of the chest, which accompanies the progress of this particular kind of distortion.

* Répertoire d'Anatomie et de la Physiologie, tom. v. p. 112.

ON THE
ORIGIN OF COW-POCK.

To the Editor of the Medical Gazette.

SIR,

AFTER the lapse of nearly two years I find myself again engaged in a controversy with Mr. Henry Coles, of Cheltenham, on the vaccine question; a controversy which was then brought to an untimely end by that most effectual stopper,—a hint from you that further communications must be in the *extra limites* department. Until such another equally intelligible hint is given, you will find me always ready to meet my opponent in the fair field of literary warfare.

The general tone of Mr. Coles's letter is very praiseworthy, and contrasts most favourably with that of his former letters. Before, however, I proceed to discuss graver matters, I would suggest to Mr. Coles the propriety of abstaining in future from the sort of indirect sneer observable in that paragraph wherein allusion is made to the views which Dr. Gregory *so perseveringly* advocates. I have not advocated the distinct nature of cow-pox and small-pox more perseveringly than Dr. Baron has advocated their identity, nor half so perseveringly as Mr. Coles has maintained the infallibility of Dr. Baron on all matters connected with vaccine pathology. Mr. Coles may rest assured that perseverance in similar sarcasms will not promote science; while it may very likely provoke another of those gentle hints touching the *extra limites* department of your journal, which proved so effectual on the 3d of January, 1840.

Mr. Coles calls the attention of your correspondents generally to the origin, diagnosis, and intimate nature of that affection of the horse's heel which is allied pathologically to vaccine. He states, "that the determination of the truth on this point has a most critical bearing on the question of the identity of small-pox and cow-pox." In this opinion I most cordially and entirely acquiesce. I do not go quite so far as to say that it actually involves the fate of that great pathological doctrine, but it goes very near it. The bearings of the question are indeed full of importance, and its settlement has now an interest attached to it infinitely greater than what it possessed before the curious and

most instructive experiments of Mr. Ceeley had been made.

I have stated in the last volume of the *Medico-Chirurgical Transactions*, that the fluid formed in the heel of the horse in the disorder *called by farriers the grease*, was capable of producing, when applied to the teats of the cow, the vaccine vesicle. Mr. Coles demurs to this statement, and affirms, first, that grease is a *local* affection of the heel of the horse, the secretions of which do *not* produce upon the teat of the cow the vaccine pustule. He further informs us, that the disease of the horse's heel which *does* engender vaccine is a *constitutional*, not a local one; a disorder affecting the general surface of the animal, manifesting itself principally in parts comparatively destitute of hair, as the inside of the thighs, and the flexure of the heel." This constitutional disorder of the horse is, we are told, an eruptive and vesicular disease. It develops a specific fluid, which fluid, applied to the teats of the cow by the hands of milkers, produces vaccine vesicles or pustules. Lastly, we are informed that this the constitutional frequently coexists with the local affection called the grease, but that such coexistence is only accidental. To such a *constitutional* disorder of the horse Dr. Baron has given the name of "*Variolæ Equinæ*."

Mr. Coles calls all the circumstances thus specifically detailed *facts*. He does me the honour to say that he does not imagine I can be ignorant of these *facts*. Still less can he suspect me of trying to found an argument upon a mistake which had been confessed and rectified.

There is, sir, in all this, much to call for observation and comment. In the first place, it will be observed that my remark applied only to the disorder "*called by farriers the grease*." Mr. Coles has told us what Dr. Baron calls this constitutional vesicular disorder of the horse, but he does not tell us what *farriers* call it. *Non constat*, from all that Mr. Coles says, that farriers may not call this disorder the grease. I found, on reference to Dr. Jenner's early pamphlets, that his opinions concerning the grease in horses might be summed up in the following words:—

The disorder called by farriers the grease consists in inflammation and swelling of the heel of the horse, from which issues matter possessing proper-

ties of a very peculiar kind. It is a disease to which the horse, from its state of domestication, is frequently subject. It is the ill management of the horse in the stable that occasions the malady to appear *more frequently* in the heel than in other parts. I have detected it, adds Dr. Jenner, connected with a sore on the neck of the horse, and on the thigh of a colt. In this affection the legs first become œdematous, then fissures are detected. The skin contiguous to these fissures may now, on careful inspection, be seen studded with small vesicles surrounded by an areola. These vesicles contain the specific fluid.

Every thing here stated bears the stamp of that careful observation and perspicuity for which Dr. Jenner was so remarkable. I was at a loss to conceive what errors could have crept into these simple and intelligible statements of Dr. Jenner, or what Mr. Coles could mean by declaring all this to be an *unfortunate* error, and saying that he “does not suspect me of founding an argument upon a *mistake* which has been confessed and rectified.” To clear up these doubts, and at the same time to inform myself of the precise opinions now entertained by our best veterinary pathologists on the subject of the grease in horses, I this day visited the Veterinary College at Camden Town, and had the good fortune to meet Mr. Spooner, the intelligent professor of that institution. I read to him the opinions of Dr. Jenner just quoted. I stated to him the new lights that have broken in upon Mr. Coles, and requested his opinion generally on the nature, diagnosis, and origin of the grease in horses.

Mr. Spooner, in reply, informed me that the statement quoted from Dr. Jenner was, with the following single exception, entirely accordant with his own views and experience. I never knew the grease, he said, extend higher than the hock. I do not believe it can exist on the neck. There is a peculiar organization of the skin about the heel of the horse, and parts adjacent, which appears to be essential to the development of the vesicles of grease. The disorder called by farriers the grease is connected with a certain constitutional derangement in the animal. It may arise from local causes, as from a blister, but there is then a constitutional tendency towards it. It may be light, and easily removed by mere local applications, or severe, requiring constitutional reme-

dies. It sometimes shows itself at the bend, or flexible surface of the hock; but in general is confined to the heel, its true locality. Mr. Spooner is not aware of any *essential* distinctions among the cases known under the name of greasy heels; nothing that would authorize a decided diagnosis between a local and constitutional affection of the heel. He believes the secretions of the vesicles, in this disorder, to be possessed of a contagious property; that is, of a power of communication by *direct contact*. He knows no grounds whatever on which the grease in horses could be legitimately called by the name of *variola equina*. Farriers do not apply the term grease to any purely local disorder of the heel, but to that mixed local and constitutional malady described in the preceding summary of the views of Dr. Jenner.

After obtaining from Mr. Spooner this very clear account of the grease of horses, corresponding so well with that long ago given by Dr. Jenner, I was confirmed in my impression that neither Dr. Baron nor Mr. Coles understand this branch of equine pathology. They have not clearly explained what they mean by a local affection of the horse's heel. Is it to be understood that, in this alleged local affection, there is a fluid formed, capable of transmission to the cow? From Mr. Coles's caution as to the choice of matter for some new experiments, I gather that he does contemplate the existence of such a transmissible secretion. If it does not produce vaccine vesicles on the cow, what does it generate? The phenomena of psora and tinea capitis (which are perhaps the best illustrations of a purely local disease which can be adduced) prove satisfactorily that the morbid secretions of local maladies are possessed of eminently contagious properties.

But allowing to Dr. Baron and Mr. Coles, for the sake of argument, that there are really in nature two distinct affections of the horse's heel—the one a local malady, producing no antivariolous secretion; the other a purely constitutional malady, the secretions of which possess an antivariolous power—the question then comes to be, why is this latter form of disease to be designated by the title *variola equina*? Why not call it psora equina—or tinea calcis—or porrigio equi? The mere fact of Dr. Baron's giving it a name does not

surely stamp its pathological character. How is its relation to variola proved? Is it a disorder that occurs once only in the life of the horse? Does it spread in stables by the mode of infection? Does it run a defined course? Such things, if ascertained, might give some colourable pretence to calling the disease variolæ equinæ; but even in such a contingency, the appellation variolæ would, after all, be hypothetical. Nothing of the kind, however, has, to the best of my belief, been hitherto made out concerning this disorder.

The attempt to distinguish two distinct disorders of the horse's heel is, comparatively, of recent date, and appears to have been suggested by a determination to support, at all hazards, the theory of the identity of small-pox and cow-pox. If cow-pox could be produced in the cow by the application of a morbid secretion from the horse, engendered by careless grooming and damp straw, the notion of the distinct nature of cow-pox and small-pox would, as Mr. Coles truly observes, be materially strengthened. To parry this argument, the doctrine of a local and constitutional affection of the heel of the horse was first adopted, and then the gratuitous designation of *variolæ equinæ*.

But why is there this anxiety to uphold the doctrine of identity? I know many intelligent men, in whose minds the notion of identity is bound up indissolubly with all their views of vaccine security; whose dogma is, "if there be no identity there can be no security." In these views I have never been able to acquiesce. I have always been tempted to view cow-pox and small-pox, not as identical, but, on the contrary, as antagonist powers, each striving to gain the mastery in the human frame; and each, under different circumstances, and at different times, proving successful. The more I reflect on the phenomena of small-pox after vaccination, the more convinced I am that, so long as the notion of the identity of cow-pox and small-pox thus obstinately prevails in our minds, so long will all just views of vaccine pathology be embarrassed.—I am, sir,

Your obedient servant,

GEORGE GREGORY.

31, Weymouth Street,
October 23, 1841.

ANALYSES AND NOTICES OF BOOKS.

“L'Auteur se tue à allonger ce que le lecteur se tue à abréger.”—D'ALEMBERT.

Pathology, founded on the Natural System of Anatomy and Physiology: a Philosophical Sketch, &c. By ALEXANDER WALKER. 8vo. pp. 162.

IN this, as in all of the numerous and varied works by Mr. Walker, there are ample proofs of originality and energy of thought; and if the design of establishing one solid basis for an improved study and practice of medicine be not fully accomplished, the author's fault is rather that of imagining it possible to do so in the present state of medical knowledge, than that of not seeing clearly through the truth of that which is already ascertained. The following is a brief sketch of his system of pathology and therapeutics:—

All pathology must be based on physiology, as physiology is upon anatomy. As, therefore, by anatomy we find the body composed of locomotive, of vital or nutritive, and of mental or thinking organs, and as in physiology we have, in correspondence with these organs, locomotive, nutritive, and mental functions, so also in pathology ought every action to be regarded according as it implies a disturbance of one or other of these functions. Thus we must consider as separate classes the diseases of the locomotive, those of the nutritive, and those of the mental functions; and in each of these classes must have, still in correspondence with the several functions, diseases of the functions of bones, ligaments, muscles; or of absorption, circulation, secretion, sensation, volition, &c. In a word, in natural pathology, the classes, orders, and genera of disease must correspond precisely to the classes, orders, and genera of organs and functions; and those assemblages of symptoms which are commonly spoken of as constituting one disease, must rather be regarded as so many diseases of several functions combined. Unhealthy inflammation, for example, may in this view be regarded as at once a disease of sensation, calorification, circulation, and secretion, and of locomotion or of support, or of any other function, as the case may be.

This may indicate the author's notion of a natural classification of diseases.

That the general principle is a true one we cannot doubt: it has been, as a matter of theory, long acknowledged that physiology must be the basis of pathology: but the difficulty is, that, for a basis, physiology itself is as yet too imperfect; nor can we hope that it will be able for a century or more to bear a compact superstructure of pathology. For it is not merely that that which is based on an error must itself be erroneous, and so that all the present imperfections of physiology must be repeated in the pathology that is founded on it;—but in this building on errors, each of them is by many times multiplied, and, as a consequence, though it is probable that pathology (properly so called) will, for many ages, make progress at the same rate as physiology, it must yet be always very far behind, till the one being perfected, stays and permits the other to come up with it.

But the more striking part of the work is the division of the symptoms of disease, as indications of treatment. There are in every disease, the author holds, and few will disagree with him as to the fact, two kinds of symptoms, the *morbid* and the *curative*; the former being the signs of the disease, the latter of the natural reaction of the *vis medicatrix naturæ*. These two kinds are directly opposed to each other, and the chief duty of the physician is to distinguish between them; and his next duty is the prescription of simple remedies of which the effects are respectively contrary to the morbid symptoms, and similar to the curative ones. *Contraria contrariis curentur*, is the law for the treatment of the former; *similia similibus curentur*, the law for the treatment of the latter: for the former, doses of medicine relatively large must be employed: for the latter, comparatively small doses may be used; because in the one case they have to overcome the tendency of the disease, in the latter only to aid the steps of nature.

It is thus that Mr. Walker reconciles what is true of homœopathy with the more certain truths of ordinary practice. The set refutation of the absurd doctrine of homœopathists into which he enters in several parts, and with which indeed the greater part of his work is occupied, might however have been safely omitted, for as a sect they are utterly unworthy of his notice. If not rogues

they must be most singular fools. Whatever diseases have been recovered from during their treatment, have of course terminated by the curative symptoms having gone on to perfection; in other words, they have been cured by the process which would, in many diseases, if uninterrupted, always end in the restoration of that state from which the diseased organs had been disturbed. Homœopathy has thus afforded abundant confirmation of the effects of the *vis medicatrix naturæ* (as it is called), and all its facts indicate that there are signs among the phenomena presented in disease, which may be called curative, as being manifestations of a process towards recovery which is naturally going on.

The existence of a *vis medicatrix naturæ* has been so long supposed, and the signs of its influence have been so long observed and so variously described and practised on, that we cannot call Mr. Walker's account of the two kinds of symptoms more than a very happy mode of expressing an old doctrine. It is, however, so happy an one, that we can hardly doubt but that every one, who can appreciate it, will now seem to see further than he did before into the nature of disease, and in every malady that he treats will have the distinction in his mind as a guide which, could he obtain it, would lead him in the surest possible road to the remedy. But the distinction, the guide, is not easily to be found. Mr. Walker says it is *pain*. "Pain is an act of the nervous system, the outcry of life when suffering under morbid symptoms, and the portion of the *vis medicatrix naturæ* exciting to the production of curative symptoms. Pain is therefore the means of distinguishing morbid from curative symptoms. Gentle reaction, slight injection, or incipient inflammation, is the consequence of pain, the reaction of the vital system, the instrument of the *vis medicatrix naturæ* in the cure of disease."

The system would have had a better chance of standing if the author had not thus given the test by which he would have its stability tried. It would not be difficult to cite many examples of morbid symptoms, of diseases going on rapidly to destruction, without pain; of others not injurious, with pain; and of yet many more in which the degree of pain bears no proportion to the

degree of mischief which is being effected. Still, though the test may be wrong, the system may be sound; and though it may not involve a discovery, yet the enunciation of the division of symptoms into morbid and curative, which is the main scope of the work, will be a guide in investigation to many whose course without it might be vague and insecure.

MEDICAL GAZETTE.

Friday, October 29, 1841.

“Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso.”

CICERO.

MEDICAL REFORM.

WE have never concealed our opinion that there is much in the political condition of the medical profession in this country which is defective, and which requires reform. But while we candidly acknowledge this, we see no advantage in exaggerating the defects of our existing institutions, or wilfully blinding our eyes to a great deal that is valuable in the present order of things. Dr. C. J. B. Williams, in one of his recent contributions to this journal, has, we think, erred on this point. He has represented the medical profession throughout England as being in a more *helpless* and *oppressed* condition than is actually the case. He has stated the position which the medical profession holds in the constitution of the country as quite anomalous. Without government, without protection, without representation, the medical profession he considers as a civil cypher—a nonentity in the state!

We cannot but think that our talented correspondent has here given a loose rein to his imagination, and overcharged the picture of medical degradation. In what country in the world does the medical man occupy so important a position in society as in

this favoured island? In a body numbering so many thousands, a few black sheep must necessarily be found; but, generally speaking, the honourable character, the professional qualifications, and the literary attainments of the members of the medical profession, are here admitted on all hands; and such qualities of head and heart carry with them the esteem of mankind. With all the defects of our medical institutions, there is scarcely an Englishman to be found, who, if destined to some heavy calamity, be it a pleurisy, a compound fracture, or an apoplexy, would not rather that such an infliction should overtake him in the smallest village in England possessing a medical man, than in the largest town of France or Germany. This may be national prejudice. We do not believe it is; but it may be so. We buy pictures, statues, medals, and a thousand other works of art on the Continent; and we lay out our money profitably. But we prefer British surgery, and feel a national pride in the skill, decision, and honour of a British physician.

In all our views for the reformation of the great corporate institutions of this country devoted to the profession of medicine, in all our proposals for the amelioration of the code of medical laws and regulations, in all our schemes of medical educational improvement, let us keep steadily in view the present high character of the medical profession in this country. Let us not seek to lower it in the eyes of our countrymen—in the eyes of our representatives—by exaggerating the defects of our old establishments. By overstating the helpless and oppressed condition of the members of the medical profession in England, we shall be like the ill bird that fouls its own nest—we shall injure ourselves, without any prospect of greater eventual benefit than if we openly and frankly avowed the many

advantages which we do unquestionably enjoy.

In a preceding number*, we offered some desultory observations on medical reform, and, in particular, on those sweeping measures of change and self-styled improvement which certain of our honourable but very radically inclined representatives in Parliament would fain have inflicted upon us. We concluded by intimating our belief that the first important step towards the amelioration of the evils affecting the medical profession, would be the appointment of a central council of revision for medical affairs, and announced our intention of speedily recurring to that topic. We shall now redeem our promise, and endeavour to shew both how such a council should be constructed, so as to work effectively, and, also, what kind of advantage may reasonably be expected to accrue from the adoption of such a measure.

The notion of a superintending medical council is not a new one. The celebrated One-Faculty scheme was based on this idea, and a curious and instructive spectacle it was, to observe the very same parties loudly declaiming against the tyranny of the poor-law commissioners in their intercourse with the medical practitioners scattered over the face of the country, and as loudly vaunting the benefits that would accrue from centralizing all the medical power in England in one body! Without dwelling on this monstrous inconsistency, we may pass on to notice the recommendation, by the reforming committee of the Royal College of Physicians, of certain visitors, who were to form a sort of Court of Appeal from the decisions of the College *in Comitia* assembled. We perceive that Dr. C. B. Williams contemplates something of the same kind in his sketch of medical

reform. "The councils of the respective bodies," he says, "should have the power of entrusting to a *committee of conference*, consisting of a certain number from each council, the consideration of matters affecting the different bodies in common." "Questions," he adds, "which the committee of conference cannot terminate to the satisfaction of the councils, may be referred to the Secretary of State for the Home Department." Here is a second court of appeal provided for; an arrangement which we cannot by any means approve of. The practical effect of it would be, that the Secretary of State, too much occupied with other business to give up much time to the unravelling of medical difficulties (for none other are, by the terms of the proposition, to be submitted to him), and incompetent, from his habits and education, to judge of such matters himself, would privately consult one, or perhaps two, of the principal physicians or surgeons of London, and by them, irresponsibly, would all the really vital questions affecting the medical profession be settled, and all the most perplexing knots of medical difficulty loosed, or more probably cut.

According to our judgment, then, there should be but one court of appeal; and that one should be so constituted as to carry with it the approbation of candid and reasonable minds. All expectation of satisfying the habitual grumblers of the profession, the *nil admirari* gentlemen, who require better bread than is made of wheat flour, and who complain of salt as wanting in savour, must be abandoned as hopeless.

How is this to be accomplished? Should such a central council of revision consist of professional men only, or of a mixture of laymen and professionals? Should the professional members of the council be selected from the metropolitan ranks only, or from the

* MED. GAZ. No. 724, Vol. 29, p. 117.

general body of the profession throughout the three kingdoms? By whom should the nomination be made, and for what period of time should they be elected: for life—for five years—during the pleasure of the existing ministry? These are all difficult questions to answer, even granting that the expediency of such a central board of revision or supervision be in the first instance conceded. Different views as to the constitution of such a council may legitimately be taken, and we hope that those with whom the decision rests will give the matter all that amount of serious reflection which the importance of the subject demands. The impression upon our minds is, that the following mode of constituting such a board or council would give general satisfaction.

It should consist of seven persons in all:—four medical men, two laymen, and one *ex officio* member, viz. the Secretary of State for the Home Department for the time being. The two lay members should be nominated by the Crown absolutely, and the four professional members by the Crown also, but out of a list of eight agreed to by the principal corporations and universities of the three kingdoms, and by them submitted for the choice of the Crown. The appointments to be for life, and all vacancies to be filled up in the same manner as the original appointments. As the meetings of the council would not be frequent (probably twice in the year would be found amply sufficient) the professional seats might, without prejudice to the regular avocations of medical men, be open to practitioners residing in the provinces.

An arrangement of this kind would throw the balance of power into the hands of the professional members, where it ought undoubtedly to reside. At the same time the presence of lay members (who would probably be men

of rank or parliamentary connections) would serve as a connecting link between the profession and the public, and would have the still greater advantage of mediating between the professional members, in case of any decided difference of opinion upon any given topic subsisting among them. The presence of the Secretary of State for the Home Department at the meetings of the council would give dignity to their proceedings; but should his other and more pressing avocations prevent this in the ordinary course of business, still the contingency of an equal division of votes in the other members of the board must be provided for; and no better measure for the attainment of such an object can probably be suggested than the giving an *ex officio* seat, and consequently a casting vote, to the Secretary of State for the Home Department.

This would be our mode of constituting the central council of revision, or, as it might be called, the board of control, for medical affairs. The duties of the board would be purely of an appellate nature. Every measure for the government of the medical profession and the regulation of medical education would initiate with the several corporations and universities which now exist, or which may hereafter be erected. But all their bye-laws and regulations would be submitted to the central council, and would receive its sanction, before they could come into operation, and have the force of law. The central council would be open to receive memorials from parties who might think themselves aggrieved by any acts (past or prospective) of the several corporations; and recommendations might perhaps, *in certain cases*, not improperly issue from the central council. This board would not only check any unwarranted exercise of power on the part of medical corporations, and of

universities (*quoad* medical education), and see that the several regulations proposed by them are in harmony with each other, so far as the varying circumstances of the three kingdoms permit, but it would prove, to a certain extent, a check on the government itself, and might, not improbably, by timely recommendations, preserve the profession from sundry jobs, such as have ere now taken place, to the no small detriment of the country. Our northern readers will know that we have an eye more especially to the reduplication of medical professorships in some of the Scotch universities.

With a central board or council so constituted, possessing the confidence of the profession, and controlling our several corporations, we have the strongest persuasion that the interests of the medical profession throughout the country would at all times be adequately provided for. We deprecate, above all things, any proposal requiring the interference of the legislature in matters of detail. The discussion of medical topics is far from being an agreeable one in parliament at any time; and we are sure that the simplest and shortest measure of efficient medical relief which can be suggested, will be the most acceptable both to government and to our legislators. A few other enactments must of course follow. It will be necessary to amend the Apothecaries' Act of 1815, to provide a new charter for the College of Physicians, and to regulate, by legislative authority, certain conflicting interests in Ireland and Scotland; but these are difficulties of comparatively easy solution. They involve no great principles, and are not likely to provoke any large amount of opposition.

On some future occasion we shall consider these matters, and may probably take an early opportunity to advert to the reforms still required in the

College of Physicians, and to the increased powers which it will behove the government to confer, by charter, on the College, when the full measure of internal reform, which the circumstances of the times require, shall have been carried out by that corporation.

ON THE DIVISION OF MEDICAL LABOUR.

BY ROBERT HULL, M.D.

(*For the London Medical Gazette.*)

The Surgeon.

My remarks in a previous paper referred mainly to the physician.

The utility of the division of medical labour is still farther verified by the history of British surgery; and the biography of the illustrious men who have ennobled this wonderful art. From Wiseman to Hunter, and Pott and Liston, the operative science has been increasing in splendour.

The "purity" of the London practice has chiefly conduced to the present *acmé* of the art. The great hospitals, which "pure" surgeons have officered, have furnished incalculable pabulum for the students: the lectures, which they have maintained, have excited a chirurgic enthusiasm throughout the empire; and their own handwork has been a model and a stimulus to provincial artists in every direction. Witness the Goochs, Parks, Heys, Jameses, Goodlads.

The pure London surgeons, like the metropolitan physicians, have admirably succeeded in supporting the reputation of their common profession.

No man can peruse the writings of Wiseman, and not perceive how exclusive was his practice; how deferential he was to the professors of medicine; how harmonious he stood, ready at any time for consultation with the *bloodless* practitioner.

So, at this day, the fair, exclusive surgeons and physicians, in London, sustain their distinct departments, without any snarling animosity; in grateful concurrence to common ends—the safety of the patient, the advancement of therapeutic science, the dignity of the healing body.

The London surgeons have never

used the prefix of doctor. Those among them who possess degrees in medicine, have agreed to drop their title. They give to the physician exclusively this designation; content themselves with the *éclat* of instruments and blood.

This concession to the practitioner in physic is fair, and founded on true principle.

Hence the manly, the generous, the just sentiments, so characteristic of Englishmen, have ever permitted him to enjoy it unmolested.

For the apothecary subsists through a nimble retail; the knifesman gains fame and fortune by his dramatic performances; the physician, through quiet, unflashy movements, and the refusal of small fees, is the least likely among them all to profit pecuniarily by his trade.

No operator, who possesses the spirit of English *fairness*, will attempt to deprive the physician of his peculiar property—will grasp the knife and the prefix also—will parade it as a *physician-surgeon*.

Yet this ungenerous spoliation is occasionally attempted: and it rests with the Royal College of Surgeons steadily to discountenance this novel irregularity, so far as they possess a moral influence. Of legal power and prevention they are not possessed: and I am not one of the number which desire that they should be fortified by law.

For, without any farther legislation, the College stands in a proud position. Their influence is moral and intrinsic. The laws of the country do not enforce their diplomata; and yet the army, the navy, the India Company, recognize and demand them.

Remains only civil life, wherein the non-possessors of their license can be received as genuine surgeons. Then, surely, opinion, public and professional, should suffice; and the surgeon of good taste and correct judgment would ever covet a distinction, the more honourable as less compulsory. But since, in the nature of man, some shabby evaders will always be detected, the faculty should repudiate them as much as possible.

Then, again, public opinion, founded on the sentiments of the Royal College, would throw a cloud over any of their members who might practise surgery, and yet sport the medical prefix.

For London must ever be the model

for the empire: and on the harmonious co-operation of the Royal Colleges of Physicians and Surgeons depend the future dignity and usefulness of the healing art in England and her dependencies.

The London surgeons have earned for their body the solid respect of all classes, from the palace of royalty to the shop of the tradesman; from the noblesse to the unfortunate inmates of the charitable hospital. They are a proud body: and in these days of attempted sansculottism may be confidently trusted with the professional standard.

There is a heroism about chirurgery, which has been appreciated in all ages. Its professors have been ever implicated in the grandest of all human dramas—war and battles.

The exclusive surgeon, at present, like the physician, rests for professional remuneration upon honour. He cannot seek it in the courts of justice; or, if he can, he declines. Who ever hears of the litigating surgeon? All this is a delicacy, which can be felt better than explained. Some persons are never easy without a definition. With such I disdain to argue on moral subjects. It is mathematics alone, which can rightfully demand this rigorous process.

One striking feature of these times is the attempt to abolish the influence of moral feeling; and to replace it by calculation and definitions.

But let us now hope for a more noble state of things. And since the profession seemed to have followed in the wake of the public, in a course of democratic revolution, let us believe that, as the people are retracing their senseless course, the faculty likewise will veer around.

If the divided labour of our art be worthy support, it must be maintained by the exclusive surgeons and physicians. They alone will stand by the colours. They, if taunted for the abandonment of a principle, are not the men to console themselves with—

At mihi plaudo,
Dum contemplor nummos.

Yet the sacrifice of the rules of our profession is, *really* and at all times, chiefly injurious to the surgeon-apothecary. The great mass of these gentlemen will never be enabled to procure academic degrees; and the greatest

enemy, therefore, in the sense of trade, that they can encounter, is the "doctor" practising generally. The only relation he can bear towards them, is one of injury. He is their rival, with the unfair advantage of his title. He cannot elevate the professional rank of the general practitioners; but he can share unduly in their hard-earned gains.

There is no class of her majesty's subjects—except, if you please, the ministers of religion—which is more useful, more necessary, than the surgeon-apothecaries—from the Isle of Unst to the Islands of Scilly. They, therefore, demand peculiarly the protection of their countrymen and of the pure practitioners.

No men, especially the rural practitioners—no landmen, at all events—endure so much perpetual discomfort. Night and day are they summoned, to great distances; over every asperity of ground, in all weathers—"in thunder, lightning, hail, and rain."—Go they must, although—

Intonere poli, et crebris micat ignibus æther,
Præsentemque viris intentant omnia mortem.

Cold, wet, tempest, *want of sleep*, are their portion. Yet those most harassed are worst, most inadequately remunerated. Few make fortunes by their wear and tear.

Still, upon the manor of this most laborious, ill-requited class of Englishmen, comes, occasionally poaching, the promiscuous physician; forestalling them, through his title, in their surgery, their obstetrical practice, perhaps their pharmacy. Their rival in the sale of medicines! Nothing but ignorance, that is culpable; and short-sightedness, which they will lament, could account for any toleration of their predatory opponent.

The physician-apothecary, in particular, lowers his own rank, and he injures pecuniarily the pharmacien.

The division of labour is beneficial to the public; it is subsidiary to science; it is *fair* for medical men, who earn by their profession an honest livelihood. And he, who wilfully and selfishly thus violates the arrangement established time out of mind in this country, deserves to be universally disallowed:—By the physicians, for he is false to their order; by the surgeons, for he is an intruder on their department; by the apothecaries, for he intercepts their

bread. For myself, I feel assured that the Royal College of Surgeons will stand firm against all endeavours to amalgamate the divisions of our art. That, whilst they furnish the public, aided by the Apothecaries' Society, with general practisers, whose surgery will not disgrace their diplomata, they will eminently foster and honour the exclusive surgeons—a class that has existed in all ages,

Τοὺς μὲν ὧν, ὅσσοι μόλον ἀλοφύτων
Ἐλκῶν ξυνάδονες, ἢ πολιῶ
Χαλκῶ μέλη τετρωμένοι,

. . . λύσαις ἄλλον ἄλ-
λοῶν ἀχέων

Ἐξαγεν . . . γυίοις περιάπτων πάντοθεν
Φάρμακα, τοὺς δὲ τομαῖς ἔστασεν ὀρθοῦς.
ΡΥΘΙΑ. III.

MIDDLESEX HOSPITAL.

Femoral hernia — Firm adhesion of the bowel to the sac — Recovery.

M. O., æt. 38, was admitted at 8 o'clock P.M., Sept. 24th, under Mr. Shaw, for femoral hernia on the right side. The tumor in the groin was of the size of a walnut. To the touch it felt as if it were of a dense and compressible structure, rather than being tense or elastic. Its neck was particularly narrow. The abdomen was much distended. She complained of pain near the umbilicus, but pressure did not increase the pain considerably. Except some scybalæ brought away by an injection four days ago, she has had no evacuation of the bowels for fourteen days. She has been confined to bed during the last fortnight, suffering from frequent vomiting and pain in the abdomen. The matter thrown up latterly has been stercoraceous. She was exhausted and low; the tongue brown and parched; the pulse small and quick. She stated that she has had the same swelling in the groin for seven years; and as it never gave her inconvenience, she had no advice concerning it. On being questioned as to whether she observed any change in the tumor about the time of her being taken ill, a fortnight ago, she said her attention was not drawn to it, and she thought it was about the same size as it had always been.

The taxis was employed for a short time, but without diminishing the size of the tumor. She was then put into a warm bath, when the taxis was repeated, but with the same want of success. A large injection of salt was administered, which only brought away one or two scybalæ.

Operation.—In the first steps of the operation nothing unusual was met with. When the sac was disclosed, it was found to adhere in a remarkably firm manner to the portion of intestine contained within it. The adhesion was strongest in front, so that great caution had to be taken in endeavouring to expose the surface of the protruded intestine; and after that was done, it was only with the utmost care that the director could be made to pass between the bowel and the sac, even for the distance of a small fraction of an inch at a time. Each time that the sac and the part by which it adhered to the intestine were cut, an oozing of blood followed. By proceeding slowly, the front part of the knuckle of intestine was freed from the sac; and after that, the further separation was effected with comparative ease, for the bowel being thick in its walls, and but slightly distended, it could be taken with the point of the finger, and, by pressing and gently tearing, be gradually detached all round from the inside of the sac. The piece of bowel, when thus freed, did not exceed in size a large cherry; and it was of a deep brown colour. The serous coat was unusually thick, and in some parts covered with thin shreds, the remains of the adhesion; and as no blood-vessels could be observed, or the indentation corresponding with the attachment of the mesentery seen, a doubt was entertained for a few moments as to whether it were really the bowel that was exposed. The director was introduced into the neck of the sac, beneath the stricture, and this was divided with the straight probe-pointed bistoury, producing an audible sound when cut. A small piece of bowel was drawn down from the abdomen by pulling on the protruded portion; and it being thus made clear that the neck of the sac was divided, the whole was returned with ease into the abdomen.

Ordered, if the bowels have not been moved after four hours, to have an injection; and if this fail, she is to take five grains of calomel, with one grain of opium.

25th, 8 A.M.—As there was a slight action of the bowels, the injection was not given. She has had no proper evacuation. Her abdomen is distended, yet she is free from pain, and has had no sickness. Tongue dry and brown; pulse 86, hard, with a thrill.

Ordered a draught of senna, Epsom salts, and magnesia.

12 o'clock.—Her bowels have been freely moved three times. She complains of much thirst; pulse 82, softer.

Ordered a saline draught, with some drops

of antimonial wine, and a drachm of sulphate of magnesia, every six hours.

Vespere.—Has had two more motions. She got out of bed to pass her water, against the nurse's endeavours to prevent her; but it did not occasion additional pain. Pulse 100.

Omit the mixture, and let her take three grains of calomel, with a quarter of a grain of tartarized antimony.

26th, 9 A.M.—Has had two evacuations during the night. Still complains of great thirst; pulse 96.

Ordered the effervescing saline draught every six hours.

1 P.M.—The bowels have acted again; the abdomen soft and free from pain. The bandage was readjusted.

Continue the effervescing saline. Let her repeat the pill at night.

27th.—As she is going on so favourably, the medicines to be omitted. The wound was dressed. A small part of the sac looks as if it would slough.

29th.—The bowels last night have been too much relaxed, and she has had colicky pains.

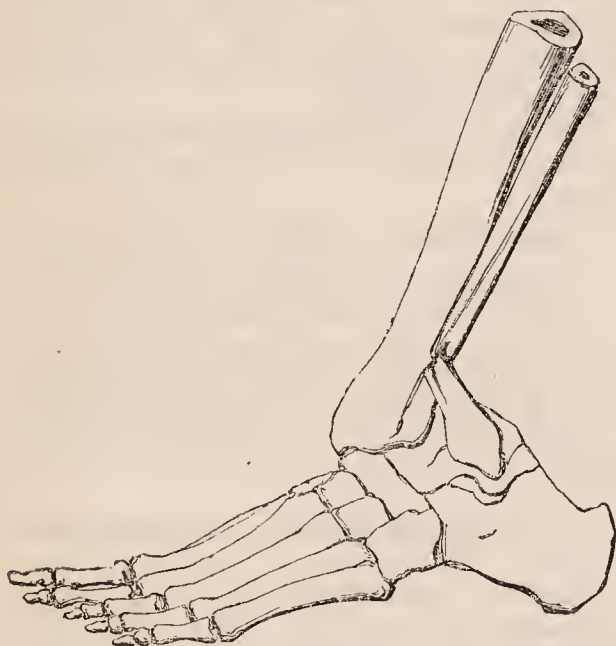
Ordered Pulv. Cretæ, c. Opio, gr. x.; Rhei, gr. xv.; Tinct. Cardamom. co. 3ss.; Aquæ Carui, ʒiss. statim.

Oct. 12th.—On the 5th a small slough was removed, and since that time the wound rapidly closed. The wound has now been healed for two days.

Fracture and dislocation of the ankle-joint.

Thomas Newland, æt. 50, a gardener, was admitted April 11th, under Mr. Shaw, having, on the previous evening, severely injured his left ankle-joint. He stated, that when returning from work, holding both his hands in his pockets, his foot slipped into a deep rut, and he fell "clumsy and heavy," as he expressed it, twisting the foot violently in his fall. After the accident, he had to walk a considerable distance to his home. Upon examining the ankle-joint, an obvious shortening, measuring from the bones of the leg to the points of the toes, was observed in the injured foot: while the heel projected backwards to an unnatural degree, giving rise to an increased hollow at the back of the leg, above the heel. Both malleoli occupied their proper positions in relation to the foot; but were situated about an inch posterior to the lower head of the tibia. Tracing the external malleolus upwards, it could be felt inclining forwards in the direction of the lower head of the tibia; and here the fibula was found to be frac-

tured. The injury was thus shown to be, luxation of the tibia and fibula forwards, the tibia lodging on the os naviculare, combined with fracture of the internal malleolus, and of the fibula above its lower head. Previous to undertaking the reduction, as the patient did not suffer much pain (he volunteered to walk in preference to being carried into the



ward), a cast of the leg was taken. The reduction was effected by first bending the knee-joint, and then, while an assistant forcibly pulled the leg back, dragging the foot, caught by the heel and instep, downwards, till the articulating surface of the astragalus was brought to the level of the lower head of the tibia. When this was done, the astragalus slipped into its place with an audible sound. The bones, however, were easily dislocated anew. The patient being left alone, was turning his leg round to lay it on the bed on its outside, when he exclaimed that his foot was getting out again; and on looking, the foot was seen in the act of being slowly dislocated, apparently by a spasmodic action of the gastrocnemius and soleus muscles. The operation was repeated as before. A bandage was carried from the toes upwards to the knee; a lathe-splint was laid along the

back of the leg, and a foot-piece was applied to the sole of the foot. When these had been secured by rollers, the foot was flexed, and retained in this position by bandages carried from the point of the foot-piece, in front, to the knee. The patient was directed to keep the knee bent, and to lie with the leg upon its outer side. Cold lotions to be applied.

17th.—He has gone on favourably, without complaining of pain.

23d.—Having moved his leg about, and the bandage getting loose, the bones have become again displaced. The reduction was effected more easily than on the former occasion.

28th.—The leg has been placed in the iron splint, with foot-piece.

June 5th.—Since the last report there has been no change worth recording. For some days past the splint has been removed, and the ankle simply surrounded with leather strapping and roller; and he has walked about the ward. Ordered to be dismissed.

REGULATIONS CONNECTED WITH THE ROYAL COLLEGE OF SURGEONS.

To the Editor of the Medical Gazette.

SIR,

I TRANSMIT to you the enclosed copies of recent regulations relating to admission to the museum and library of this College, as containing information of a public nature, and request that you will be pleased to insert them in your journal. I also enclose a copy of the regulations relating to the professional education of candidates for the diploma of the College, as amended on the 14th instant.

I am, sir,

Your obedient servant,

EDMUND BELFOUR, Sec.

Royal College of Surgeons in London,
October 21, 1841.

The museum is open to the members of the College, and to the trustees of the Hunterian Collection, and to visitors introduced by them personally, or by written orders stating their names, which orders are not transferable, on the public days, which are Mondays, Tuesdays, Wednesdays, and Thursdays, from 12 to 4 o'clock, except during the month of September, when the museum is closed.

The museum is open on public days to all fellows and licentiates of the Royal College of Physicians in London, to peers and members of Parliament, to the great officers of State and of the Royal Household, and their immediate deputies, to all the dignitaries of

the church and of the law, to all general and flag officers, to the members of all the learned and scientific bodies in the United Kingdom, to the members of all public boards, and to persons introduced personally by them respectively, and to all respectable foreigners, and to the articulated students of the College, on entering their names and ranks or stations in the book provided for that purpose.

Lastly, the secretary and conservators will exercise their judgment in giving admission to any respectably dressed persons who may apply for it.

The museum will be open on Fridays to gentlemen desirous of studying in it from 12 to 4 in winter, and from 12 to 5 in summer, on their making a written application to the president or museum committee.

The senior conservator, Mr. Clift, will attend every day on the visitors and students; and both the conservators, Messrs. Clift and Owen, on Saturdays from 10 to 1, on which day visitors and students desirous of comparing specimens with those in the museum, or of having specimens examined, or of gaining other information, are requested to present themselves.

N.B. The parts of the catalogue of the collection already printed are to be purchased at the museum at cost price.

The library is open daily, Sundays excepted, to members and articulated students of the College, from 10 until 4 o'clock, from the 1st of October to the 1st April; and from the 1st of April to the 1st of September from 10 until 5½ o'clock.

Members have the privilege of personally introducing a visitor.

Persons not members, desirous of admission, must make application in writing to the president or library committee, specifying their Christian and surnames, rank or profession, and residence.

Tickets of admission are granted for six months, at the expiration of which time application must be made for their renewal.

REGULATIONS OF THE COUNCIL

Respecting the Professional Education of Candidates for the Diploma, August 20th, 1839. Amended October 14th, 1841.

I. CANDIDATES will be required, in addition to a certificate of being not less than twenty-one years of age, to bring proof—

1. Of having been engaged in the acquirement of professional knowledge for not less than four years; during which period they must have studied practical pharmacy for six months, and have attended one year on the practice of physic, and three years on the practice of surgery, at a recognised hospital or hospitals in the United King-

dom*; —three months being allowed for a vacation in each year.

2. Of having studied anatomy and physiology, by attendance on lectures and demonstrations, and by dissections, during three anatomical seasons or sessions, extending from October to April inclusive.

3. Of having attended at least two courses of lectures on the principles and practice of surgery, delivered in two distinct periods or seasons, each course comprising not less than 70 lectures:—and one course of not fewer than 70 lectures, on each of the following subjects, viz. the practice of physic—chemistry—materia medica—and midwifery with practical instruction.

II. Members and licentiates in surgery of any legally constituted College of Surgeons in the United Kingdom, and graduates in surgery of any university requiring residence to obtain degrees, will be admitted for examination on producing their diploma, license, or degree, together with proofs of being twenty-one years of age, and of having been occupied at least four years in the acquirement of professional knowledge.

III. Graduates in medicine of any legally constituted college or university requiring residence to obtain degrees, will be admitted for examination on adducing, together with their diploma or degree, proof of having completed the anatomical and surgical education required by the foregoing regulations, either at the school of the university where they shall have graduated, or at a recognised school or schools in the United Kingdom.

IV. Certificates will not be recognised from any hospital unless the surgeons thereto be members of one of the legally constituted Colleges of Surgeons in the United Kingdom; nor from any school of anatomy, physiology, or midwifery, unless the respective teachers be members of some legally constituted College of Physicians or Surgeons in the United Kingdom; nor from any school of surgery, unless the respective teachers be members of some legally constituted College of Surgeons in the United Kingdom.

V. Certificates will not be received on more than one branch of science from one and the same lecturer: but anatomy and physiology—demonstrations and dissections—will be respectively considered as one branch of science.

VI. Certificates will not be received from candidates for the diploma who have studied in London, unless they shall have registered

* By a resolution of the council on the 7th of November, 1839, no provincial hospital will in future be recognised by this College which contains fewer than 100 patients, and no metropolitan hospital which contains fewer than 150 patients.

their tickets at the College as required by the regulations, during the last ten days of January, April, and October, in each year; nor from candidates who have studied elsewhere, unless their names regularly appear in the registers transmitted from their respective schools.

N.B. In the certificates of attendance on hospital practice and on lectures, it is required that the dates of commencement, and termination, be clearly expressed; *and no interlineation, erasure, or alteration will be allowed.*

Blank forms of the required certificates may be obtained on application to the Secretary, to whom they must be delivered, properly filled up, ten days before the candidate can be admitted to examination; and all such certificates are retained at the College. By order of the Council,

EDMUND BELFOUR, *Sec.*

PRACTICAL REMARKS ON DISEASES OF THE EAR.

THE following letter, which was an answer to queries put by an eminent surgeon in Ireland to Mr. Neil, will communicate some important practical information on diseases of the ear.

1. "Are you of opinion that inflammation of the Eustachian tubes and its consequences (stricture and obstruction) is a frequent cause of deafness?"

I am of opinion that stricture and obliteration rarely exist; and, therefore, are unfrequent causes of deafness; but that such a state sometimes is found, I can vouch for. When ulceration to a considerable extent has taken place in the throat, and when acute inflammation has occurred, in such cases puncture of the tympanum would offer the readiest means of cure; but the most frequent cause of deafness is inflammation and thickening of the lining membrane of the Eustachian tube, and obstructions from morbid secretions; and it is in such cases that the air-press is useful. Granulation, too, similar to the granulated eyelid, will frequently be found to exist, and is an aggravated state of chronic inflammation of the mucous membrane in a strumous habit.

2. "Are those cases of deafness, usually termed nervous, attended with noises, &c. to be attributed to obstruction of the Eustachian tubes?"

I should think not. I find in such cases, that inflammatory action has existed at some time; that the mucous surface ceased to be lubricated with its proper secretion; that it is dry and parched; and I attribute the noises to this dry state; and I have found that when, by the vapour of acetic æther and

kreosote, I have brought back a healthy secretion, the noises in many instances cease. It is not improbable that the flow of blood through the carotid, with the pulsations of the vessel causing a thrilling to all the structures of the inner ear, gives to the nerves some sensation, which, carried to the mind, is construed into the morbid sounds so much complained of. In the early stage of catarrh, when active inflammation is taking place in the Schneiderian membrane, and also in the lining membrane of the Eustachian tube, and before a free secretion of mucus takes place, these noises are very common; but when the secretion takes place vigorously, this state of noise and confusion immediately goes away.

3. "Is the catheter, when used without the air-press,—when used merely as a probe,—capable of relieving morbid affections of the Eustachian tube?"

This question may easily be answered. The catheter can be of no use without the air-press: I should say, not the least. It will communicate nothing to the explorer beyond the state of the passage along the nose, and the situation of the spongy bones.

4. "In what cases would you recommend the catheter, and in what would you recommend the air-press?"

I would recommend the air-press to be used as a means of ascertaining the state of disease, in all cases where the deafness did not clearly show itself in the outer ear; and it ought to be used in all cases where there is necessity for the introduction of stimulants to the inner ear. I mean catheter and air-press together; for they are parts of one machine.

5. "In what cases do you recommend constitutional treatment, and in what does such constitutional treatment consist?"

When there is a strawberry-looking tongue, a relaxed uvula, enlarged tonsils, enlargement of the glands of the neck, thickening of the lining membrane of the Eustachian tubes, an irritable state of the lining membrane of the nostrils, a strumous habit. When there is an irritable state of the mucous membranes, I should expect that constitutional treatment would benefit my patient, and assist the mechanical process which I might consider right to use; and my constitutional treatment would consist in blue pill, sedatives, antacids, iodine in some of its forms, and afterwards tonic medicines. First I would awaken a new and healthy action in the mucous membranes; and, next, I would endeavour to excite the nervous energy of those and of the contiguous parts.

6. What treatment have you found most efficacious in deafness attended with strange noises, and want of ceruminous secretions?"

I use, as an external application, a liniment, composed of *kreosote*, *acetic æther*, and *olive oil*. This is introduced into the

outer ear every night; and I throw into the Eustachian tube, by means of my air-press and vapour apparatus, the combined vapour of acetic æther and kreosote. The action of kreosote upon secreting surfaces is excellent; and as a *stimulant* I know of nothing better.

7. "Have you known strychnine and veratrine, warm stimulating oils, &c. of use in cases of deafness?"

I send you, with this letter, a copy of a little work I published six years ago, before *Turnbull* commenced his stimulating system in London; and in a case there detailed you will see, that so long ago as 1834, I recommended the use of strychnine in cases of *atonic* deafness; and since that time I have frequently had recourse to it with marked advantage—advantage as marked as in some cases of imperfect amaurosis; and I continue to apply it in the same way. Veratrine is inferior to strychnine, and its application to a raw surface gives great pain.

8. "How do you certainly know that the catheter is fairly into the Eustachian tube?"

When you and I visited London, in 1839, we both anticipated some fatal accident, from the clumsy attempts the operator whom we witnessed made to introduce the catheter; and also from his turning on the condensed air, when the beak of the instrument was still in the nose, and directed down the throat; he was then, he told us, *dilating the passage*; that is, he was endeavouring to blow up the lower spongy bone!!

This lesson was valuable. By perpetual practice I can slip the catheter into the auricle of the Eustachian tube in a moment, and without the least inconvenience, and *I am certain* it is there.

Take No. 8 catheter, as made by Weiss, of the Strand, London; the No. 8 Kramer catheter; it is the one I almost invariably use; stand on the right side of the patient, whose left side should touch a table, on which is the air-press. Stand comfortably on the right side, and put your left hand on the top of the patient's head; hold the catheter between the thumb and middle finger of the right hand—hold it so near to the end at which the loop is, that the fore finger will touch the open end of the tube; then introduce the beak of the instrument into the nose very quietly. Your hand should be as low as, or a little lower than, the patient's mouth, during the stage of the operation; as you continue advancing the point of the instrument along the very floor of the nostril, continue gently raising the hand, until, when the back of the instrument touch the back part of the throat, your hand shall be as high as the top of the nose, and the catheter itself will be at the upper edge of the nostril. You may then rest for a moment, and it is a good opportunity to chat to those around you, so as to remove any

fear from the mind of the patient; he also gets accustomed to the sensation of the instrument in the nose, and will allow you to accomplish the operation easily. You will now bring your left hand round the patient's head, so as to have it in readiness to grasp the catheter when it is rotated into the Eustachian tube, that it may be gently and safely held for the introduction of the air. You will now again take hold of the catheter, touch the back of the throat with it, to be certain that it has reached its destination; then endeavour to make it rotate upwards, drawing it gently forwards until you accomplish this object, which is much facilitated by desiring the patient to swallow; he, in that act, raises the pendulous palate, and removes all obstruction to the entrance of the instrument. I take advantage of this motion always, to pitch in the catheter; when in, in most cases, it will remain if left alone in the passage; and the loop on the outer part of the catheter denotes that the corresponding concave side has its beak also pointed outwards.

There is no use in having the catheter graduated, unless you could have all men's faces of the same depth. I do the whole process myself; and never allow any one to assist me.

9. "How is the vapour of acetic æther applied, and in what cases?"

I volatilize acetic æther in a glass globe by the application of heat, and then with the air-press I force in a stream of condensed air, which displaces the æther with an equal force, and impels it along the catheter into the Eustachian tubes. First I use simple condensed air to clear out and dilate the passages, and then I throw in my vapour. I use it in many cases,—in tinnitus, and chronic inflammation and its consequences; and with good effect.

Weiss is my instrument maker, and the price of the *Press* is about £5; but all the apparatus cannot be got for less than about £15.—I had spent three times this amount, before my instruments were perfected.—*Report of Liverpool Eye and Ear Infirmary.*

POISONING BY AMMONIA, IN THE STATE OF VAPOUR.

ON the 10th of June, 1840, at about three quarters past eleven o'clock in the evening, Dr. Souchard, of Batignolles, was suddenly summoned to visit M. A. Pietri, the pupil of a druggist in that place. This young man, whom many had seen a few hours previous, in perfect health, was now in the most imminent danger. One of those enormous stone bottles, known in commerce by the name of *bonbonnes*, and which contains

about fifty pounds of the volatile alkali, had been delivered late in the evening at the shop. The druggist was doing duty as one of the National Guard, and it was too late to procure other assistance in order to carry it into the cellar. The heat of the room probably caused the ammonia to expand, and thus the bottle broke. Pietri slept in a small apartment opening into the shop, but he had scarcely been in bed before he experienced a violent constriction of the throat, and great difficulty of breathing. Unable to account for this, he arose for the purpose of procuring a drink of water, but as he entered the shop, the sense of suffocation increased, and he would probably have expired, had not a female servant been aroused by his plaintive cries. She succeeded, though not without risk to herself, in dragging him from the tainted air. It is supposed that he had been exposed to it about three quarters of an hour.

Dr. Souhard directed his immediate removal into the open air. His countenance was covered with red spots; a large quantity of bloody froth issued from the mouth and nose; the tongue was of a vivid red and appeared deprived of its epithelium, but in some places it was covered with a white mucus, resembling portions of a false membrane, and the cavity of the mouth had a similar appearance. The patient, who could articulate only with extreme difficulty, complained of a cutting pain in the throat, which soon extended to the chest; the respiration was very feeble, and suffocation seemed impending. He experienced great thirst, but it was almost impossible to swallow anything, as the attempt caused violent coughing, and a mucous expectoration. The pulse was feeble, irregular and frequent, the eyes red, and the face burning to the touch. He was bled largely, with very great relief, and being removed to a bed, vinegar, diluted with water, was regularly administered. Although he swallowed at first with difficulty, yet its good effects were soon manifest in a diminution of the mucous rattle. Leeches were applied to the throat with success, and subsequently frictions, astringent gargles, enemas, and warm baths, completed the cure. In forty-eight hours M. Pietri was out of danger, but for several days thereafter he laboured under all the symptoms of acute bronchitis, and he had complete aphonia for nearly a week: of all this, however, he perfectly recovered.

This is not by any means the only case in which dangerous and even fatal effects have followed from exposure to this violent irritant. M. Chevalier, in his comments, refers to no less than ten instances, and he has not included the whole that are on record.—*Amer. Journ. of the Med. Sciences.*

DIRECT EXPERIMENTS TO DETERMINE
WHETHER

PORTIONS CUT OFF FROM LEECHES
ARE REPRODUCED.

BY STEFANO GRANDONI.

BOSE, by whom Buffon's Natural History was continued, positively asserts the reproduction of divided leeches; in the Dictionnaire des Sciences Naturelles the contrary is stated. This contradiction, with other circumstances, induced the author to submit the question to the test of experiment. He divided twenty leeches between the fifth and sixth segments of their bodies, and placed half of them in glasses containing water with little stones at the bottom, and the other half in glasses containing a thin stratum of clay moistened with water. All possible care was taken to maintain them in health. After three weeks one of those that lived in the clay exhibited on its truncated extremity two white and somewhat convex gelatinous corpuscles, in the centre of which there was a more vividly coloured and transparent point; the rest of the section was somewhat rounded, and covered by a very delicate membrane. These signs seemed to render it probable that the experiment was about to succeed; but a month after the leech died, and apparently from the disease of the truncated extremity. Three months after being divided, the sections of the other leeches were found covered by a dense rounded gelatinous mass, which after some time became a very fine and transparent investment, and made the surface of the divided part quite smooth. After about six months the leeches in the water with the pebbles all died one after the other, without any regeneration of the part that had been cut away. Their weight was neither diminished nor increased. At this time six of the remaining leeches were taken from the clay, in which they had till lately constantly lain buried, and put in water. These, as well as the three that were left in the clay, were then looked at several times every day; the condition of their trunks was from time to time examined with the aid of powerful lenses, and the number of their segments was counted, but no increase was observed. At the tenth month from the commencement of the experiment only the three leeches in the clay remained alive; these also died four months afterwards, but without the reproduction of even the most minute ring. It was thus decided that divided leeches are not regenerated.—*Brit. and For. Med. Review.*

OF

DRUGS ON SALE IN THE ENGLISH MARKET,

With their Prices and several Duties.

(From the Official Returns, Oct. 26, 1841.)

	PRICE.						DUTY		DUTY PAID.	
	£ s. d.			£ s. d.			and 5 per cent.		In 1841, to last week.	Same time in 1840.
Aloes, Barbadoes, D.P. c	15	0	0	to 30	0	0				
Hepatic (dry) BD..... c	5	0	0	10	0	0				
Cape, BD. c	2	10	0	3	10	0				
Anise, Oil of, German, D.P.... lb										
E. I. lb	0	5	9	0	6	0				
Asafoetida, B.D. c	1	10	0	3	10	0				
Balsam, Canada, D.P. lb	0	1	0	0	1	3				
Copaiba, BD..... lb	0	1	1	0	1	3				
Peru, BD. lb	0	4	6							
Benzoin (best) BD..... c	25	0	0	50	0	0				
Camphor, unrefined, BD..... c	16	0	0							
Cantharides, D.P. lb	6	2	6	0	2	8				
Caraway, Oil of, D.P. lb	0	8	6	0	8	9				
Cascarilla or Eleutheria Bark, D.P. c.	3	10	0							
Cassia, Oil of, BD..... lb	0	7	6	0	8	0				
Castor Oil, East India, BD..... lb	0	0	2½	0	0	6				
West I. (bottle) D.P. 1½ lb										
Castoreum, American lb	0	17	0	0	18	0				
D.P. Hudson's Bay lb	0	18	0	1	0	0				
Catechu, BD. Pale c	0	15	0							
Dark c	0	13	0	0	14	0				
Cinchona Bark, Pale (Crown).... lb	0	2	0	0	3	6				
BD. Red lb	0	2	0	0	4	0				
Yellow lb	0	2	4	0	3	0				
Colocynth, Turkey lb	0	1	6	0	2	9				
D.P. Mogadore lb	0	1	0							
Calumba Root, BD. c	0	9	6	1	15	0				
Cubebs, BD. c	4	0	0	4	5	0				
Gamboge, BD. c	10	0	0	22	0	0				
Gentian, D.P. c	1	8	0							
Guaiacum, D.P. lb	0	0	6	0	1	0				
Gum Arabic, Turkey, fine, D.P... c	10	0	0	11	0	0				
Do. seconds, D.P. ... c	4	10	0	8	10	0				
Barbary, brown, BD. c	2	7	0							
Do. white, D.P. c	4	5	0							
E. I. fine yellow, BD. c	1	17	0	2	5	0				
Do. dark brown, B.D. c	1	5	0							
— Senegal garblings, D.P. c	4	0	0							
— Tragacanth, D.P. c	8	0	0	12	0	0				
Iceland Moss (Lichen), D.P. lb	0	0	2½	0	0	3				
Ipecacuanha Root, B.D. lb	0	1	4							
Jalap, BD. lb	0	3	4							
Manna, flaky, BD. lb	0	2	6	0	2	9				
Sicilian, BD. lb										
Musk, China, BD. oz	1	0	0	3	10	0				
Myrrh, East India, BD. c	5	0	0	14	0	0				
Turkey, BD..... c	2	0	0	11	10	0				
Nux Vomica, BD..... lb	0	8	0	0	9	0				
Opium, Turkey, BD. lb	0	8	6	0	9	0				
Peppermint, Oil of, F. BD..... lb	0	8	6	0	9	0				
Quicksilver, BD. lb	0	3	11							
Rhubarb, East India, BD..... lb	0	4	0	0	5	0				
Dutch, trimmed, D.P. lb	0	8	0	0	9	0				
Russian, BD. lb	0	8	6	0	9	0				
Saffron, French, BD. lb										
Spanish lb	2	0	0							
Sarsaparilla, Honduras, BD..... lb	0	1	0	0	1	9				
Lisbon, BD. lb										
Scammony, Smyrna, D.P..... lb										
Aleppo lb	0	18	0	1	0	0				
Senna, East India, BD. lb	0	0	4	0	6	5				
Alexandria, D.P..... lb	0	1	6	0	1	8				
Smyrna, D.P. lb	0	1	0	0	1	3				
Tripoli, D.P. lb	0	1	0	0	1	3				

‡§‡ B D. In Bond. — c. Cwt. — B. P. British Possessions. — F. Foreign. — D. P. Duty paid.

NEW ARTIFICIAL LEG.

M. LEPAGE, a stone-mason of Paris, having had the right leg crushed by an enormous stone, submitted to amputation ; and being poor was obliged to follow another trade, and became a shoemaker. The ordinary wooden leg without joint did not suit his new condition : he broke several ; and he therefore contrived a leg with two joints, the one corresponding to the knee, the other to the hip. By means of a button applied to a spring, which descends laterally from the superior to the inferior articulation, these two joints are easily accessory to different movements, especially those of sitting down and rising up. The contrivance is very ingenious. The cost is about two guineas.—*Bull. de l'Acad. Roy. de Méd. and Brit. and For. Med. Rev.*

CASE OF PRURITUS SCROTI CURED BY FRESH LEMON JUICE.

By DR. OPPLER, of Tarnourtz.

THIS was an extremely distressing case, that had resisted all internal and external means for ten weeks, depriving the patient of sleep, and producing incessant distress. The pruritus extended to the penis, and was accompanied by no primary rash, nor any perceptible local alteration except what was produced by the friction. A wash of diluted lemon-juice gave immediate relief, and after a few applications produced a perfect cure.—*Berlin Med. Zeitung, and Brit. and For. Med. Rev.*

RECEIVED FOR REVIEW.

Illustrations of the Comparative Anatomy of the Nervous System. By Joseph Swan. Past VII. (last.)

Mr. Parkin on the Remote Cause of Epidemic Diseases.

Mr. Charles Vines' Observations on the Analogy between Ophthalmic and other Diseases.

ROYAL COLLEGE OF SURGEONS.

LIST OF GENTLEMEN ADMITTED MEMBERS.

Friday, October 8, 1841.

Jonas Day.—Michael Ryan.—Henry James.—James Edward Mathew.—Mark Henry Devlin.—Thomas Godfrey.—Robert Henry King.—Herbert Giraud.—Richard Henry Oakley.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, Oct. 7, 1841.

J. Dowling, Liverpool.—R. W. Read, Salisbury, Wilts.—W. F. Tuckett, Bath.—G. B. Portus, Bath.—J. M. Cockcroft, Knutsford.—J. Wilson, Doncaster.

Thursday, Oct. 14, 1841.

J. T. Fletcher.—J. Andrews, Wernham, Dean.—E. E. Hooper.—R. Gilling, Launceston.—J. Whaley, Bradford, York.—J. B. Tullock, Teignmouth, Devon.—A. Emson, Shalford, Essex.—R. Buchanan, Pontefract.—W. Pocock, Brighton.—J. Barley, Guernsey.—J. Lambe, Painswick, Gloucestershire.

TABLE OF MORTALITY FOR THE METROPOLIS.

Shewing the Number of Deaths from all Causes registered in the Week, ending Saturday, the 16th Oct. 1841.

Small Pox	7
Measles	22
Scarlatina	8
Hooping Cough	46
Croup	7
Thrush	8
Diarrhœa	16
Dysentery	1
Cholera	0
Influenza.....	0
Typhus	23
Erysipelas	1
Syphilis	0
Hydrophobia	0
Diseases of the Brain, Nerves, and Senses ..	145
Diseases of the Lungs, and other Organs of Respiration.....	231
Diseases of the Heart and Blood-vessels	18
Diseases of the Stomach, Liver, and other Organs of Digestion	71
Diseases of the Kidneys, &c.....	4
Childbed	7
Ovarian Dropsy	0
Disease of Uterus, &c.	1
Rheumatism	0
Diseases of Joints, &c.	1
Ulcer	1
Fistula	1
Diseases of Uncertain Seat	111
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METEOROLOGICAL JOURNAL.

Kept at EDMONTON, Latitude 51° 37' 32" N. Longitude 6° 3' 51" W. of Greenwich.

September.	THERMOMETER.		BAROMETER.	
Wednesday 20	from	36 to 53	29·84 to	29·61
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Wind, S.W. and S.E. from the 20th to the 24th ; since N. and N.E.

On the 20th, and following day, generally clear. The 22d, morning overcast, afternoon and evening clear. The 23d, generally cloudy, raining frequently during the morning and afternoon. The 24th, morning overcast, with rain, otherwise clear. The 25th, morning foggy ; afternoon cloudy, evening clear. The 26th, noon clear, otherwise overcast ; raining frequently and heavily during the evening.

Rain fallen, ·22 of an inch.

CHARLES HENRY ADAMS.

WILSON & OGILVY, 57, Skinner Street, London.

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FRIDAY, NOVEMBER 5, 1841.

CLINICAL LECTURE,

BY DR. CLENDINNING,

*Delivered October 25 at the St. Marylebone
Infirmary.*

Diarrhœa in Infants.

DIARRHŒA is a disease amongst the most frequently met with in promiscuous practice: all ages and ranks, and both sexes, are almost equally liable to it. Amongst adults it is usually a disease of little importance in itself. Indeed, exclusively of those cases amongst adults in which the intestinal flux is attributed to cholera, or is connected with organic disease, as tubercular disease of the lungs, or granular disease of the kidneys, or ulceration of the colon, or other part of the tube, it might perhaps be said that diarrhœa seldom comes under the observation of the London physician in subjects over puberty. In the extreme ages, however, diarrhœa is often of importance on its own account. Infancy and old age agree in many points; and, amongst others, in the incapability of bearing up against extenuating diseases and processes with the same energy that we meet with under sickness in the middle periods of life. That elasticity of health and self-restorative energy of function that so often rescues the physician out of his difficulties in the treatment of the boy or girl of ten to fifteen, or even of the man or woman from twenty to forty, is comparatively little developed in the infant under two or three years of age, and is still feeble in the aged person of seventy and upwards, in whom, in fact, it is fast wearing out, if not quite extinct. In the diarrhœa of infants this is very remarkable, especially in such cases as include amongst their symptoms aversion to food, and still more in such as suffer further from the thirst and other irritations of febrile action. From whatever cause or causes arising, any considerable deficiency in the

amount of nutriment, taken as compared with the mass of matters excreted, produces in the infant, if continued for any length of time, effects always of serious tendency, and often of fatal result. Of the material frame of the infant the fluids form a much more considerable proportion, there is reason to believe, than they do of the adult; and the preponderance of fluid is apparently essential to the existence of the young growing and as yet incomplete animal. Hence the rapid sinking of organic action and vital power that we so often observe suddenly supervening on excessive evacuation, by the bowels or other channel, in the diseases of young children. Hence the necessity we are under of watchfulness, in order to detect approaching exhaustion in infants, and to anticipate the natural effects in such subjects of profuse evacuations by timely supplies of nutriment and stimuli, and thus to prevent the collapse to which such subjects are so liable. Hence, lastly, the importance that, I have said, in many cases, attaches to diarrhœa, on its own account, as occurring in very young children. Of the truth of the preceding observations the following case, selected from several more or less similar in symptoms and treatment at this moment in the infirmary, is an example.

CASE. I. *Infantile diarrhœa.*—Henry Puddiford, ætat. 4, admitted into the St. Marylebone Infirmary, Oct. 11, 1841. On his admission his bowels were very loose, so that his food, or at least such liquids as he would swallow, appeared to the nurse “to pass through him” very soon after being ingested.

The child had been several times previously in the infirmary for similar complaints. He now was found much wasted, very feeble, wan-looking, with pulse very small and very feeble, but not very quick; extremely averse to being moved or approached for any purpose whatever. Ill of the diarrhœa for some days, and now apparently nearly exhausted; skin dry; extre-

mities cool; no glandular swellings detected about the neck, axillæ, or groins; no tumidity of the abdomen; no tenderness on pressure.

Oct. 11th.—The resident physician ordered—

Mist. Cretæ, ʒij. to be taken as often as required; rice milk for food.

Under this treatment the child continued till the 13th, when, on account of the continuance of the profuse diarrhœa, the following was ordered by me in addition:—

Cupri Sulphat. gr. $\frac{1}{8}$; Pulv. Doveri, gr. i.; Cretæ, gr. iij. 4tis. h. s.

On account of certain aphthous appearances about the gums and inside of the lips, borax and honey were likewise ordered to be used frequently.

On the 15th, after about half a dozen doses of the copper and opium, the stools had become less frequent, and less abnormal in colour and consistence. Still thirsty, feeble, without appetite.

On the 18th the symptoms found to continue, in a mitigated form indeed, but little progress seemed to have been made since the 15th; stools very thin and pale, and amounting to six or eight in the day.

18th.—The Cupri Sulph. was consequently increased to gr. $\frac{1}{4}$., Dover's powder gr. i. (as before), and Liquorice powder instead of chalk. 4ta. q. q. horis. Wine also was ordered: 1 oz. red wine, in arrow-root, daily.

20th.—Reported considerably amended; but one stool this morning, thick, but not figured, two or three in the preceding night; beginning to relish food; sleeps better.

Two ounces of red wine per diem in arrow-root.

22d.—Improving; motions fewer and firmer, of a brown colour; feeds well to-day; sleeps well; expression improved; pulse much better in volume and power.

23d.—Improving; two motions last night, one this morning, which was natural in colour; takes food, and sleeps well; looks better.

24th.—One stool last night, and one this morning; motions firmer, and in every respect nearly normal, if not quite so; all the functions improved.

25th.—One stool to-day, figured as much as usual with children, and otherwise normal; improving in every respect; aphthæ disappeared for some days; no sign of cachexia present now; weak still, but apparently convalescent.

Diagnosis.—Now, with respect to the nature, in a practical sense, of the disease in this case, there can be no doubt. It was

not a diarrhœa of dentition, as his age, four years, and the absence of local evidence, sufficiently prove. It was not worms, for nothing of that kind was detected in his evacuations. Neither are we authorized to conclude that it was connected with mesenteric disease, because there were no glandular swellings detected in his neck, groins, &c. nor had he the tumid abdomen usually attending tabes. The supposition of phthisical diarrhœa also seems excluded by the absence of characteristic signs about the chest. Finally, inflammation or ulceration in the bowels were rendered improbable by the absence of tenderness on pressure, and of blood, pus, &c. in the evacuations. Thus, no other supposition remains open to us than this—that the disease was a simple diarrhœa in an ill-fed, ill-clothed, and delicate infant. This view appears to be confirmed by the cachectic eruption about the mouth and gums, and has been put almost past doubt by the results of the treatment. The indications kept in view in the management of this case were few and simple, viz.:—

Indications.—1. To check the intestinal flux by astringents.

2. To soothe irritation by anodynes, &c.

3. To stimulate the circulation and digestion by means of wine, &c.

4. To fill the depleted blood-vessels by means of suitable supplies of nourishing food.

The first indication was fulfilled by means of the sulphas cupri, for the promulgation of the powers of which the profession is deeply indebted to Dr. Elliotson, (*vide* LONDON MED. GAZ. vols. viii. and xii.) This potent styptic I have been in the habit of using freely for diarrhœa, when unconnected with inflammation of an active kind, in all sorts of subjects for a considerable time, and with the most satisfactory results. In children it operates, so far as I can judge, not less kindly, notwithstanding the irritability of their stomachs, than in adults. Indeed, owing to the untoward interference with me of the feelings and fancies of the patient, I have been more frequently balked in the use of this agent in the cases of grown people than of young children. In this case the salt was used in doses varying from one-eighth to one-fourth of a grain every four hours, without any inconvenience whatsoever, and with results quite satisfactory. To the blue vitriol (in fulfilment of the second indication) was added a little Dover's powder (one grain), according to my usual practice in such cases, and no larger dose of the opiate appeared to be called for in this subject; and liquorice powder was added to cover the taste and give bulk. The third indication was answered by a little port-wine given in arrow-root, generally one to two ounces daily; and the fourth indication by the finer farinacea, as arrow-root, &c. by eggs, beef-

tea, &c. Under these means the discharges have been, in the course of ten or twelve days, brought, as regarding their quantity and consistence, quite within the normal limits, and have become, from green and slimy at one time, and chalk-like and slimy at another, brown and natural coloured.

Only two observations further respecting this case. First, as to the use of mercurials in such cases; and, secondly, as to the effect of insufficient clothing in the production of diarrhœa in children.

Use of mercurials.—The evacuations in diarrhœa are often found to be of an unusually light colour. The usual inference from this pale appearance of those excretions is, that the liver is sluggish, or otherwise out of order; and it is most frequently supposed that bile is wanting, and that in such cases mercurials are indicated. Now, assuming the correctness of of that view, it follows that grey powder, or some mild preparation of quicksilver, should have been used in the preceding case; for the evacuations, as already stated, were at no time for the first week of treatment of a proper colour, being at one time pale, chalk-like, and others green, and at always slimy. Mercurials, however, you have seen, were wholly abstained from, and yet, in due time, the evacuations assumed the normal colour. And this is worthy of particular notice, that the amendment in the colour was progressive with and proportional to the amendment in consistence and frequency, so that the inference might tolerably, fairly apparently, be drawn, either that copper, with Dover's powder, is cholagogue, and calculated to regulate the biliary secretions something like mercury—a supposition which has no sanction from authority that I know of,—or else that the absence or preternatural condition of the hepatic fluids in the motions was but a coincidence or complication of the irritation in the bowels: the hepatic and intestinal derangements bearing to each other merely the relation of simultaneous effects of some common antecedent cause, or combination of causes. Now that this latter inference is more probable than any other, I shall have frequent opportunity of showing, in the children's ward more especially, by the only evidence that clinical medicine, in such cases, recognises as conclusive, viz. the results of treatment. I shall therefore return to this subject on first convenient occasion.

Influence of cold as a cause.—The second topic of remark is the influence of clothing as a cause of bowel complaints in young people.

The greater delicacy and fragility of health and inferior tenacity of life that characterize the very young has already been referred to. The greater liability of children to colds,

indigestions, diarrhœas, feverish attacks independent of primary local mischief, is, I may say, a matter of daily experience. Their greater susceptibility of injury from atmospheric influences, and greater need of protection by warm clothing, seems, however, to have escaped as yet the notice of the general public. Every day we have occasion to observe practical proofs of this in the frequent virtual nudity, and not unfrequent absolute nakedness, of much of the lower extremities and upper part of the chest of the young children we meet with under the charge of adult females in the streets. I speak not now of the lowly in station, whose poverty might excuse them, but rather of the wealthy class, whose ignorance of some of the most obvious conditions of health must, in many instances, be gross, indeed, if they really participate in any important degree with their milliners and other dressmakers in determining the quantity, and fashion, and material, of their children's clothing. Now such exposure of the limbs, &c. of children, whether originating in poverty or in ignorance and folly of parents, is a cause, as I believe, of their bowel complaints in many instances. I have no doubt, therefore, that, in the case of Puddiford, exposure to cold from want of proper clothing had an ample share in the excitement of the diarrhœa; and if under that impression I abstained from ordering a flannel vest, or, at least, a flannel roller for the abdomen at the commencement, it was only because I rather confidently anticipated that the warmth of a comfortable bed and room would, in his case, when backed by such medicines as above named, be found in due time amply sufficient to master the disease.

In other cases, however, in circumstances more or less analogous, and in some even apparently less severe than that of this child, I have been under the necessity of having the little patient clothed from head to foot in flannel, in addition to the most energetic use of astringents, opiates, diet, &c. before complete success was attained.

I shall, in further illustration of this point, now allude shortly to an example of this kind which occurred to me not long since in private practice.

The case I am about to refer to is interesting in connection with the case of Puddiford, in other points likewise, especially in the additional evidence it affords of the safety and advantage of long-continued and free use of the blue vitrol and Dover's powder; the former of which was exhibited in larger doses than I remember to have seen in any other case at the early age of eighteen months.

CASE II. *Diarrhœa.*—A gentleman's son, of about $1\frac{1}{2}$ years old, living on a clay soil, and in a rather damp locality, had been observed by

his mother and attendants to have the bowels rather looser than common for a considerable time in the course of the first half of the year 1840, but not so relaxed as to excite alarm, or call for the physician's assistance. In the summer and autumn of that year the parents left home on a protracted visit to friends in a distant province. During the child's absence, his bowels were in a natural state comparatively or altogether. But after his return home late in the autumn, and about the commencement of last winter, the bowels became again unduly relaxed, and the child lost bulk and strength. A course of medicines was then entered on under the judicious advice of a neighbouring surgeon. The means, as far as I can recollect, that were employed, were a cautious diet of farinacea and broth and beef-tea, and medicines containing chalk and aromatics, gum, and a little grey powder. Under those means the diarrhoea was kept, in some measure, in check. Instead of advancing rapidly, and gaining on the child's constitution, it often seemed stationary.

After some months' perseverance in this plan, the parents consulted me. In January last I saw the child for the first time, and carefully examined it in conjunction with the family medical attendant. The appearance of the little patient was not very unfavourable; his colour in particular was pretty good; his tongue was clean; but on directing my attention to the pulse, the skin, the voluntary powers, the nutrition, the appetite, I found him in a very extenuated and debilitated condition. The pulse was small, feeble, rapid; the skin cool, and dry; the power of sustaining himself in walking nearly or altogether wanting; the body and limbs much wasted; the appetite capricious and insufficient. He had a great many motions in the twenty-four hours, and was disturbed repeatedly every night by calls more frequent, as I recollect, and more urgent, than those of the day-time. There was no trace of worms; no blood or pus; no want of the usual colour in the stools, which were normal, I may say, in all points, save frequency and consistence. The abdomen was neither tender nor tumid; there were no glandular swellings; the pectoral viscera were ascertained to be sound. The child had had no motion for some little time before my visit, but, on applying my ear to the abdomen, the gurglings and clickings that accompany intestinal action could be heard loud, and in quick succession, just as occurs in artificial catharsis. Under these circumstances I advised the use of blue vitriol, with opium, in the following form:—

R Sulphat. Cupri, gr. $\frac{1}{8}$; Pulv. Cretæ Comp. c. Opio, gr. v.; Sacchari Albi, gr. v.; pro dosi 4ta. vel 6ta. q.q. horâ sumend.

I advised, at the same time, that the abdomen should be swathed in flannel, but made no important alteration in the diet on that occasion. Under this plan some mitigation of the symptoms was soon evinced by a less frequency and less liquid state of the evacuations. The child being resident in the country, I did not again see it for some little time. At my second visit I found the diarrhoea considerably abated, but by no means suppressed. The copper agreed well with the stomach. On this occasion my attention was directed principally to the state of the stomach and skin, of the pulse and voluntary power. The dry state of the skin and coolness of the extremities, taken along with the continuing inappetency and feebleness of the pulse and great muscular debility, determined me to recommend that the copper should be increased, that Dover's powder should be substituted for P. Cretæ Comp. c. Opio, and that a little Sulph. Ferri should be added according to a formula such as the following:—

R Cupri Sulph. gr. $\frac{1}{4}$; Ferri Sulph. gr. $\frac{1}{4}$; Pulv. Doveri, gr. iss.; Sacchari Albi, gr. v. M. pro dosi 4ta. q. q. horâ sumend.

At the same time a little wine was ordered, about a glassful per diem, in arrow-root. There was further a large addition made to the woollen clothing, his whole person (the head and hands, of course, excepted) being enveloped in flannel. Under this more extended use of astringents, tonics, and anodynes internally, with a still more stimulant and sustaining diet, and a complete underclothing of wool, the child mended steadily, and pretty rapidly, so that I had no occasion to leave home to visit him again. In the course of June he had some return of his diarrhoea, after having been for many weeks quite well; and this was met by a recurrence to the mixture of copper, iron, and opium, in larger doses; viz. Sulph. Cupri, Sulph. Ferri, aa. gr. ss. 4tis horis; with 1 to 2 grs. of Dover's powder; with the same result as at first. This child is now in excellent health.

In this case I attribute a considerable portion of my success to my having armed the person with a panoply of woollen material. Without the assistance of the warmth and gentle sudorific action of the woollen clothing, I believe I should have had more trouble in subduing the bowel complaint, and the case would, in all probability, have proved much more obstinate than I found it.

Similar combinations of metallic astringents and tonics with anodynes, and external warmth, I have several times employed with success in diarrhoeas of the worst kind, such as those that harass the victims of pulmonary consumption. Of the use of such means in various circumstances I shall pro-

bably, in the course of the session, have repeated opportunities of setting before you satisfactory examples.

CASE III. *Morb. Hepatis*.—The next case I shall notice is of a quite different class from that just discussed—much less certainly still known as to its real nature and seat, and under treatment, yet presenting some points already sufficiently made out and interesting to be worthy your attention.

It is that of Ellen M'Mahon, char-woman, forty-four years of age, labouring under what appeared to be some chronic affection of the liver.

This woman was admitted Sept. 16th, and the following history was given by herself:—She was a cook by trade; married nearly thirty years; had several children, always with easy labours. Twenty-six years ago had her first child, since which period has been of a very confined habit of body, and constantly under the necessity of using aperients to keep her bowels open. About twelve years since was attacked with an obstinate obstruction of the bowels, for which various medicines were employed without advantage, until she had swallowed several ounces of quicksilver. Since that time has never been free from a feeling of a tumor in the left epigastric region. During the last eighteen months, the tumor has been painful, and for several weeks before her admission the pain had been distressing. On examining the seat of the tumor, it was found to extend obliquely across the epigastric region, and apparently in the situation and direction of the anterior edge of the liver. It was painful in a high degree on pressure. On percussing the seat of disease (by filling against one finger applied to the surface as a pleximeter, which was the only mode of percussion that could easily be borne,) it was found that a dulness of resonance, such as marks the presence of the liver, extended down from the mamma nearly to the umbilicus, and that both sides were nearly similarly situated in that respect. Pressure was ill borne; but so far pressure was used as to detect a sensation as of something that might be the tumefied edge of the liver resisting the finger. Change of posture made little perceptible difference. In every position pressure on the prominent part of the swelling gave a feeling of deep-seated fluctuations, as of fluid compressed in a circumscribed cavity. No mark or other evidence of any mechanical injury to the part could be detected. The patient had never been out of the British isles, and never had ague nor jaundice. Person much extenuated; pulse 100, small, and feeble in a striking degree; some cough, without evidence of any important mischief in the chest; bowels confined; tongue coated, and brownish in the middle; sleep disturbed by pain in the tumor.

18th.—The resident physician ordered—
Catap. Lini abdom. Mur. Morph. gr. $\frac{1}{3}$,
o. n. Fish diet.

20th.—As before nearly; morphia agrees; cough troublesome; bowels confined. Ordered—

Linctus Papaveris, \mathfrak{z} i. p. r. n. Rep. Pil.
Morph. Mur. nocte. Haust. aperiens
statim.

22d.—Easier. Continue remedies. Diet altered to one chop, with half a pint of ale.

24th-26th.—Considerable improvement in pulse, rest, and personal feelings; tumor pointing apparently about the middle of the epigastrium, rather towards the right side. With a view to effect an evacuation of the matter supposed to be pent up in the tumor, and with as little abruptness, violence, and risk of hæmorrhage, as possible, the resident officer applied moxa to the apex of the swelling, so as to effect an eschar through the whole thickness of the cutis, on the evening of the 26th. The operation gave much superficial pain; but, on the other hand, it relieved the deep-seated uneasiness.

Oet. 1st.—Has complained much of pain and debility since the 26th, for which Æther mixture and Liquor Morph. Bimeconat. were used with relief, in divided doses. To-day, pulse very feeble; much general debility and languor; pain less urgent, on account of the use of opium. Ordered—

Red wine, 4 oz. daily. Decoet. Cinchon.
 \mathfrak{z} iss.; Spir. Ammon. Arom. \mathfrak{z} ss.; Træ.
Card. Comp. \mathfrak{z} i. 6ta. q. q. horarum sumend.
Haust. Anodyn. o. n. Diet, as above.

6th.—Continued nearly stationary for two or three days after the date of last report, and until the falling off of the slough. On the separation of the eschar a considerable quantity of laudable pus followed, amounting, in the two first days, to half a pint at least, and probably considerably more; for it was impossible to estimate the quantity with any exactness, as it was constantly passing away. After the second day from the first discharge of pus, the quantity was much less than escaped in the dressings, &c., amounting, the nurse thought, to a couple of ounces daily, on an average. To have two chops for dinner: continue the wine and bark, and ammonia mixture.

From the 6th to the 13th nothing important was observed. Aperients, however, were called for very often in the interval; and draughts of Decoet. Aloes Comp., or Infusi Sennæ Comp., with various proportions of Jalap powder and Aromatic Spirit of Ammonia, were ordered at different times, to unload the bowels.

On the 13th the pulse found still very

feeble; colour rather pallid; strength at a low ebb. Ordered—

Mist. Ferri Aromat. ʒiss. (Phar. Dubl.)
(Heberden's Ink) 6tis horis.

25th.—Bowels still obstinate, not answering satisfactorily to any medicine employed; acting generally either not at all, or too profusely.

The chalybeate mixture and anodyne draughts still continued, but the former at intervals of four hours instead of six.

A probe was, at my request, introduced by Dr. Boyd, in dressing the patient, at his evening visit, when a small cavity, not seeming to penetrate into the abdomen, was ascertained. The wound made by the separation of the eschar had by this time contracted very much: Dr. Boyd thought that he could perceive the liver adhering to the parietes. On examining the epigastric and hypochondriac regions again by percussion, it appeared that, on the right side, the hepatic dulness was no longer perceptible so low down as at first, and that, on that side, it now little exceeded the margin of the ribs; while, on the left side, no such change was observed, but on the contrary, the defective and fleshy resonance of the hepatic region was still easily detected in the immediate vicinity of the umbilicus, and continuously upwards, under the ribs and sternum. The left side, also, is now more painful. The right, on the contrary, is relieved. The patient has been for some days up and walking about the ward.

Such is the history of this case up to the present time: what the ultimate result may be I cannot yet with absolute certainty predict. I hope for a recovery; and, assuming nothing of a malignant nature to exist in the case, which I consider most probable, I sanguinely expect it. But whatever may be the event, the case is one of interest.

Diagnosis.—In the first place as regards the diagnosis. My diagnosis was, originally, Morb. Chron. Hepatis: and after a few days' observation, I inferred the existence of an abscess in the liver, and anticipated that it would empty itself, more or less completely, through the walls of the abdomen.

Now the grounds of this diagnosis were the following. First, the seat of the tumor, and its shape and direction, all of which corresponded more nearly with those of the anterior edge of the liver than of any other organ or substance that was in any degree likely to present itself, with such appearances, in the epigastre. That seat, shape, and direction, were in some measure visible; but were ascertained partly by manipulation or pressure, in various ways, with the fingers; and partly by percussion of the regions pointed out as painful by the patient. By percussion principally, gently

but effectively employed, it was rendered probable that the anterior edge of the liver exceeded its normal limits, inferiorly, so far as to descend as low as the umbilicus, if not lower; while, by pressure with the points of the fingers, a sensation, as of deep-seated fluctuation, was supposed to be detected in the middle of the epigastrium. Now had the fluctuation felt been owing to a subcutaneous abscess external to the abdominal cavity, the features of the case could not be such as already stated from observation; for a fluid exterior to the peritoneum could not give a sensation of deep-seated fluctuation under ordinary conditions as to thickness of tegument, &c., such as existed in this case; neither would the tumor have been so sharply defined at its summit; but, on the contrary, would doubtless have appeared as a flattened swelling, more or less circular in circumference, and by no means extending horizontally across the epigastre. No other source of pus, such as existed in this case, occurs to me, with sufficient likelihood on the face of it, to call for proof on my part that it might not have misled me in judging of the seat and nature of this patient's disease.

I conclude, therefore, that her disease was seated in the liver, which I believe to be adherent to the parietes in the epigastrium. I regret that the probe was not thought of when the abscess first discharged, as by its use at the moment, it seems probable that much light might have been thrown on the question as to the precise anatomical characters of the affection.

Indications of treatment.—The indications of treatment in M'Mahon's case were partly very clear, but were partly also open to doubt. 1, inasmuch as she was in a state of much debility, her person generally being extenuated, her circulation languid—as evinced by cool extremities, a weak impulse of the heart, and a small feeble pulse,—and her voluntary powers being much reduced, it was evident that stimulant and sustaining means, medicinal and alimentary, were indicated. 2, on account of the coated tongue and sluggish bowels it was necessary that active aperients should be employed. 3, the want of appetite and flatulency, taken together with the absence of distinct fever, and the unfavourable state of general nutrition, indicated the use of bitters and other stomachics. 4, the pain at the epigastrium, which interfered materially with sleep, indicated the use of opiates, or at least of such anodynes as should be found not incompatible with the successful use of bitters and aperients. 5, the tumor in the epigastrium further indicated the use of local means calculated (assuming it to be an abscess) to promote the evacuation of the pus at the surface. According to these therapeutical

views the treatment was conducted; and, hitherto, the results obtained have accorded fully, I think, with the diagnostics above mentioned, and with the plan of cure described. The place of the eschar is rapidly closing up; the discharge of pus still continues pretty free. No distinct cavity extending into the abdomen, I have already stated, has been discovered by the probe; but there is reason to believe that the sac from which the first copious gushes of pus escaped, has contracted much on itself, and that its communication with the surface, by means of which the pus still oozes out, is but a very small and obliquely sinuous passage, through which, owing to its narrowness and crookedness, a probe could not be passed without more pain than it would be desirable to expose her to. Her colour and general appearance are greatly improved; her appetite is good; tongue clean; pulse fuller and stronger; muscular strength greatly augmented; sleeps well; is up and about the ward all day, and would be in the garden daily, I have little doubt, if the weather were more favourable. She still uses tonic medicines, stimulant diet, anodynes at night, aperients almost daily. The visible epigastric tumor has quite subsided, and the pain is now described merely as a load, or dull uneasiness.

Remarks.—A point of surgical practice is illustrated by this case, namely, the safety, and at least occasional convenience, of giving vent to deep-seated collections of pus, &c., by means of eschars, and sloughing away of a portion of the cutis. In this case moxa was used: doubtless caustic might have been employed with like success. I am not aware of any objection to the use of such means where matter points sufficiently distinctly and prominently, except the greater slowness of their operation, compared with the lancet or trochar. Whatever be the merits in general of the different methods, I mean to try moxa again on the left side of the epigastre, where the patient feels most uneasiness now, and where, as already stated, there is reason to suspect a second collection of matter not yet pointing, but soon about to point, at the surface.

Another minor point of practice is the use of the old-fashioned Atramentum Heberdeni, long disused in this country, but lately reintroduced into the national Pharmacopœia of Ireland. The nearest equivalent to this old and valuable combination of chalybeate, bitter, astringent, and aromatic, in our Pharmacopœia, is the Mist. Ferri Comp., or Griffiths' mixture, a feeble, comparatively, and nauseous compound. I have, for some time, used this medicine pretty extensively, and entertain a most favourable opinion of its powers against a variety of diseases. I

shall have repeated opportunities of pointing out to you examples of its beneficial operation in our chlorotic and hysterical girls; also in convalescence from fever and other acute diseases; and generally in cases of anæmious cachexia and debility.

The further progress of this case, with its final result, will be a matter for consideration some future day, after the course of events shall have elucidated its history completely, and finally confirmed or corrected the diagnosis announced, and the indications of treatment adopted.

ILLUSTRATIONS

OF THE

PATHOLOGY, DIAGNOSIS, AND TREATMENT OF OPHTHALMIC AFFECTIONS.

BY EDW. HOCKEN, M.D. M.R.C.S.L. &c.

(For the Medical Gazette.)

The Amauroses.

IN a former communication I promised to pursue the subject of amaurosis from hyperæmia of the visual nervous apparatus generally; and it is now my intention to illustrate some important parts of this subject. I have already, in the *Lancet**, explained many of my own views on hyperæmial amaurosis, but something still remains, which I purpose now to discuss. I trust that I have proved that the affection is conveniently divisible into active, passive, mechanical, and sympathetic; and that the following table is not an unnecessary subdivision of these forms:—

Hyperæmial Amaurosis.

Active.—1st. From absolute or active general plethora; 2d. local determination of blood: *a.* from accidental causes, *b.* from hypertrophy of left ventricle of the heart.

Passive.—1st. From relative or passive plethora; 2d. venous congestion (accidental); 3d. the results of previous inflammations, injuries, &c.

Mechanical.—1st. Venous retardation from the pressure of tumors, &c.; 2d. from disease of the heart and great vessels.

Sympathetic.—1st. Sympathy with connected organs.

Having separately gone over these

* Vide pp. 713-716, 775-779, 916-919, vol. ii, 1840-41.

divisions and subdivisions in the papers already referred to, I shall now speak of diagnosis in some of the more obscure forms. No inconsiderable resemblance obtains between some of the more passive cases, and the slow, but certain progress of chronic cerebral organic disease. To confirm these observations I will now contrast two cases, which will illustrate the points in question.

CASE. — Complete amaurosis of both eyes ; suppression of the catamenia, with continued, dull, oppressive headache.— Harriett Cooper, ætat. 20, was admitted under the care of Mr. Lawrence, in May 1841, for complete amaurosis of both eyes. She is moderately tall, rather stout, her complexion bloated and livid, and her previous health, according to her own account, good, with the exception of occasional and severe "sick headaches." She has spent her life in the country, and her occupations have been such as usually fall to the lot of an inmate in a farm house.

About six months previously she became affected with severe headache, which was almost always present, but appeared and disappeared at irregular intervals. The headache was not constant in its seat, but she suffered chiefly in the back of her head, and over her brows, the pain frequently ceasing towards night, when she slept well ; of late, however, many of her nights have been restless, and the pain severe. She describes the pain as dull, heavy, and oppressive, as having continued with uncertain intervals of relief for the last six months, and increased in severity rather than diminished up to the time of her admission. Her sight failed gradually in the right eye about two months since (from the beginning of June 1841), whilst the left eye became likewise affected shortly after ; vision failing, without any particular amaurotic symptom.

When questioned about the commencement of her headache, she dates the symptoms to exposure to cold.

Her appearance is highly vacant and amaurotic ; the axes of both eyes correspond ; the pupils of both are widely dilated, and possess scarcely any power of dilatation or contraction on the alternation of light and shade. The component textures of the globes appear healthy, but the conjunctivæ present a few large, dilated, livid trunks, running in the conjunctiva oculi,

coming especially from the inner canthus, and converging to the cornea.

Her sight in either eye is lost entirely ; she is quite unable to discriminate the difference in the quantity of light falling on her eyes, when the hand is placed immediately in front of them, between her and the window, and when removed : indeed, when questioned, she guessed the very reverse to fact. She states that occasionally she imagines that she does perceive light, and has sometimes the sensation of the appearance of sparks before her eyes. The headache is of the same character as she experienced previously to her admission, but is now occasionally so severe at night as to prevent sleep ; and the sensation of giddiness is severe when she stands upright. All the other cerebral functions are performed normally ; there is no lesion of sensation or volition ; she acknowledges no imperfection of any other sense (although the house-surgeon assures me that her hearing is slightly impaired), and the memory and intelligence remain, although the patient's comprehension is rather dull. Her countenance is congested and livid, and the surface of the body generally is dark and cold, from an evident want of vigour in the capillary circulation ; the pulse is soft and feeble, whilst the carotid artery pulsates proportionally with greater power than the radial. Her digestive functions were greatly deranged at the commencement of her illness ; at present the tongue is pale, moist, enlarged, and marked by the teeth ; the appetite good ; but the bowels irregular, and frequently constipated. The catamenia became deficient gradually, and ceased altogether about five months since (from June).

Diagnosis.—This case appeared to me to be a severe form of passive hyperæmial amaurosis, dependent on a general faulty condition of the system, which constitutional state approximated most nearly to an advanced stage of relative plethora, to which, and not to any primary derangement of the uterus itself, I attributed the amenorrhœa and the alimentary derangements. Mr. Lawrence took a different view of the case ; he regarded it as an example of amaurosis from cerebral disease, and considered the restoration of the catamenia as of great importance.

Had this case been under my own

care, I should have acted, I must confess, on my own opinion of its pathology, which would have led me to the employment of a series of blisters in succession, behind the ears and to the back of the neck, the employment of mercury to induce a very slight constitutional action, stimulating pediluvia, with the use of purgatives and tonics, waiting until any tendency to reaction arose in the system, and then a sparing venesection. Mr. Lawrence directed for her the aloes and myrrh pill, ten grains every night; mercury with chalk, two grains three times a day; six leeches to the ankles.

The patient remained in the same condition on the 10th of June. To repeat four leeches to ankles.

11th.—On questioning her to-day, she states that her general health is certainly improved since she came into the hospital, although her vision remains the same; the cephalalgia diminished; the objective and subjective symptoms of the eyes similar to the day on which the case was taken; several conjunctival vessels pass to the cornea from the inner canthus. To continue medicines; four leeches to the ankles.

Six leeches were reapplied to the ankles on the 13th.

On the 15th there was less headache; the face still congested, and of a leaden colour; conjunctiva less vascular; vision as imperfect as on entry; pupils dilated and nearly motionless. To continue.

June 19th.—Four leeches.

22d.—Countenance flushed, but much less dusky; headache less; vision not improved.

At a period shortly after the last date the catamenia returned fully, but vision remained unchanged. In this condition she left the hospital early in July. I have since heard that her headache was returning.

REMARKS.—The case which I have just detailed is an example of a form of amaurosis by no means very uncommon in young females shortly after puberty, in whom this condition of circulation has begun and progressed from puberty. It differs greatly from chlorosis, in which anæmia is a prominent feature, and by which it is readily diagnosed. The headache, in the foregoing case, although it resembled that from cerebral disease, in its

being nearly always present, yet in its other characters it exactly resembled what I have described as peculiar to passive cerebral hyperæmia*, and the constitutional symptoms fully warranted such an opinion. The effects of treatment were very encouraging, and I have little doubt that something, at least, might have been gained, as regards vision, if persevering local treatment had been adopted. That the languor of the circulation, and especially that of the cerebral, was greatly diminished, during the patient's continuance in the hospital, was obvious, since the headache greatly diminished in continuance and severity, and the bloated and livid appearance of the complexion disappeared, the conjunctivæ became less vascular, and the functions of the uterus fully and freely returned: hence, in my opinion, the prognosis, in regard to restoration of vision, would have been very favourable if active local measures had been instituted, although vision had not improved by the benefit wrought in the general symptoms, and in those of local congestion. And I may here remark, that a gentle constitutional action of mercury not only improves the secretions of the liver and alimentary canal, as well as the secretions generally, but exerts a very beneficial influence on local congestions, be they active or passive in their character, especially when such other local and general treatment be instituted as shall favour its operation, and remove any obstacle to its local effects.

With the before-mentioned case let us now contrast the following, which occurred likewise under the care of Mr. Lawrence in the same hospital.

CASE.—*Severe and continued headache; complete amaurosis of both eyes; strabismus of the right;—perversion of the senses of smell and taste, with imperfection of hearing.*

Sarah Wakefield, æt. 21, was admitted under the care of Mr. Lawrence, on the 17th of June, 1841, with complete amaurosis of both eyes, and strabismus of the right. She is of a fair complexion, and extremely delicate appearance; her face, and the general surface of the body, pale and exsanguine; her eyes prominent, irides light coloured (blue); no emaciation. She

* Vide Lancet, vol. ii. p. 777, 1840-41.

states that she has always enjoyed good health, and had never suffered from severe illness until the commencement of the present attack, which was about ten or eleven months since (from July, 1840). Her employments could have in no way influenced its production, since she had been married for some time, and had had merely the superintendence of household employments to engage her time. The greater part of her life had been passed in the country (Suffolk), but she had resided for the last two or three years in town.

She subsequently informed me that she had been very subject to "fits" within the last year or two, coming on almost invariably during sleep, and that she was insensible during their continuance, but was informed that she screamed, laughed, wept, and struggled much during this period. Whilst awake, very slight causes of alarm affected her severely, and any slight but sudden noise, or incident, occasioned palpitation of the heart.

When questioned about the origin of her disease, she attributed its commencement to cold, stating that she went into the country for a few weeks, and on returning to town caught cold by the way, after which the symptoms about to be detailed commenced.

Between ten and eleven months ago, she began to suffer severe pain in the temples and back of the head, but never in the forehead; from which last fact she states that she supposed it rheumatic, and consulted some one, who confirmed this view of her case. The pain increased gradually, and never left her entirely for months; its character was darting, seeming to run between the back of the head and temples, preventing sleep, and never attended with drowsiness. It was increased by food and stimuli: the first almost invariably occasioning retching and vomiting, which continued more or less up to the time of her entry into the hospital, but has since been completely stopped. Soon after the occurrence of headache she gradually lost the sight of the left eye: vision became misty, and she fancied she saw falling sparks and flashes of light, and sometimes actual persons or objects grotesquely dancing and mimicking life, before her field of vision. This condition of sight was attended with considerable pain in the eye and neigh-

bouring integuments, with tenderness on pressure. In the left organ the sight was lost completely in a few weeks subsequent to its commencement, when the right eye became affected, but less severely, and the vision was not completely gone in it until a week or so before her admittance; pain and tenderness existed throughout the whole of this period in the right eye, but much less severely than in the left. About three months since she was very ill, was completely delirious, and insensible for more than a week, with feverishness, from which state she recovered gradually. During the continuance of her illness, from August or September 1840, she has been subject to feelings of vertigo, and such as would be produced if she were falling—to attacks of coldness and numbness of the right side, of general weakness and loss of power of the extensors of the thigh, so that her knees sunk under her: on these occasions she has nearly fallen, and once or oftener has actually fallen down. Her sense of smell has been deficient, and she has not recognised the impressions produced by different substances; and there has existed a constant sense of an unpleasant smell in the nose, and a sensation as if the nostrils were blocked up by something, which, she says, prevents her blowing her nose, whilst actual pain has now and then been present. The sense of taste has been also deficient: as in the case of smelling, so here she has not been able to recognise the flavour of different sapid substances from one another, and has been annoyed by an unpleasant taste constantly present. The hearing was perfectly natural until a very recent period; but she states that she has heard imperfectly during the last week or so, especially whilst resting her right ear on the pillow, but on raising herself up she hears better. The catamenia stopped suddenly five months ago, and have not recurred since that date.

At present (July 1841) her look is vacant and staring; her right eye affected to a moderate extent, with divergent strabismus; the pupils unequally dilated, that of the right being more considerably affected than the left: the dilatation is not very considerable, but the pupils possess not the slightest motion on alternation of light and

shade, although it is stated by some who have watched the case carefully for some time, that occasionally they do present some inconsiderable degree of motion.

On her admission ptosis of the left eyelid existed*, so as completely to cover the eyeball, which, however, has since diminished, and has now completely disappeared (July 13th). The organs appear prominent, pallid, and highly reflective of light, and at the same time are more firm than natural to the touch. She complains of a ball in the throat, and difficulty of swallowing, which is now better. Her sight was completely lost, on her admission, in both eyes. She complained of muscæ and luminous spectra, but less than before; was unable to recognise the difference between broad sunshine and the darkness of night, with either or both eyes. Since her admission, however, she fancies that she can discern a difference when the hand is placed immediately in front of her eyes and then quickly removed. Her sense of smell has improved a little, as also that of taste, but in other respects they continue as before. She appears pale and bloodless; her pulse is very small and feeble, and she herself is very nervous. Appetite good, bowels confined. Headache severe and constant, but better than a few months back. She was directed, on the 17th of June—

Ess. Sarzæ comp. ʒij. ter die. Morph.
Acet. gr. $\frac{1}{4}$, o. n. Pil. Hyd. Chlorid.
comp. grs. iv.; Ol. Croton. v. M. ft.
pil. v. j. p. r. n. capiat.—Milk diet.

The aggregate of the symptoms could leave no doubt of its pathology; and the diagnosis accordingly made was amaurosis, &c. &c. dependent on the slow progress of organic cerebral disease, whilst the treatment was founded on such views of the case.

The symptoms remained without much

change, and the same treatment was pursued on the 22nd of June, the 6th, 9th, 13th, and 16th of July. On the 20th, vision remained the same; pupils quite immovable; the right still dilated to a more considerable extent; headache less; feels better—To continue.

July 28th, health much improved; headache less; aspect and vision as before.

Pergat. Vin. Rub. in small quantities daily.

Aug. 3rd.—In all respects continues as before.

7th.—Much better in every sense: very slight pain in the back of the head; thirst and dryness of mouth: pupils possess slight motive powers; and is aware when any thing intervenes between herself and the light.

9th.—Is extremely nervous, but feels in better health; pupils are more equally dilated; vision of the right eye better than the left; strabismus as before.

17th.—Health improves, whilst the vision remains as imperfect as before.

24th.—Pergat. Vision remains the same. She now talks of going into the country.

31st.—Her health and vision as before, but sometimes better and at others worse. To continue. Has made up her mind to leave the hospital soon, which accordingly she did, at a date shortly after the last-mentioned one. I am unacquainted with her history since that period.

REMARKS.—In the foregoing case all the symptoms most clearly pointed to its cerebral origin; and the aggregate of continued and severe headache, strabismus, ptosis, loss of vision, imperfection of hearing, with lesion of the senses of smell and taste, vertigo, and sickness after food, are such as rarely occur conjointly in any single instance. Besides this, the manner of the occurrence and development of the amaurosis was peculiar, and almost characteristic, and the attacks of numbness and coldness of the right side, with loss of power over the muscles of the lower extremities, was clearly traceable to the same source. In the course of her illness more acute disease seems to have been set up, but again subsided; for about three months before her admission, she was delirious and insensible for more than a week, with general

* I have remarked that slight ptosis exists, in combination with amaurosis, more frequently than might be supposed; and having had my attention drawn to the subject, I have remarked that the eyelid corresponding to the affected organ has hung somewhat lower than its fellow, in many cases clearly unconnected with cerebral affections; it was very manifest in a case of retinitis, of some interest, which I trust to give in a future paper, &c. &c. Again, unequal dilatations of the iris, with apparent blindness, partly remediable by making the patient look through a small aperture in a card, form an occasional but limited class of cases, which I intend also to illustrate.

fever,—a condition from which she recovered gradually. Previous to the commencement of headache, and since that date, she acknowledges to attacks of convulsions and insensibility coming on during sleep, which seem to have been of an hysterico-epileptic nature, but which, I have no doubt, had their origin in actual disease commencing within the cranium. A condition of anæmia, and a tendency to hysteria, were superadded to the symptoms derived from a local origin, but without any necessary connexion with the latter, the diagnosis from simple anæmia being clear and without difficulty. There are many facts of interest, worthy of comment, in this case: the unequal dilatation of the pupils, the unequal level of the lids, the unequal direction of the eye-balls, and the slight improvement in these respects from treatment. The character of the headache, with the sympathetic irritability of the stomach, was such as we might expect to occur, whilst the imperfection as well as the perversion of the senses of taste and smell, rarely occur under any other circumstances. The improvement of health, which certainly was produced by treatment during the patient's stay in the hospital, seemed to indicate a corresponding improvement in the local malady, and accordingly the headache, vertigo, &c., the imperfection of the senses, and the muscular weakness, diminished, although, it is true, that that of hearing commenced and progressed during the same period.

As regards diagnosis from the case first narrated, the careful perusal of both will, I think, be sufficient: in the first, the complexion, the headache, the absence of many cerebral symptoms, and the great improvement from treatment, contrast greatly with the remarks which I have now appended to the present. In the former, the character of the headache and amaurosis were such as would arise from passive congestion, in which the features are bloated and livid, the conjunctivæ traversed by tortuous dilated trunks, and the cephalalgia is dull, heavy, and oppressive; whilst, in the latter, the headache is severe and darting, with great sympathetic irritability of the stomach; beside the presence of those truly characteristic phenomena which I have already dwelt on.

I will, I trust, pursue the subject in my next communication.

15, Southampton Street,
Covent Garden.

[To be continued.]

ON THE
TREATMENT OF VARICOSE VEINS
BY THE NEEDLE AND TWISTED
SUTURE.

By T. B. PEACOCK, Esq.

Late House-Surgeon to the Chester Infirmary;
Pathologist to the Edinburgh Royal Infirmary.

(For the *London Medical Gazette*.)

CONSIDERABLE doubt prevailing in the minds of many practitioners as to the safety and efficiency of the plan of treating varicose veins by the needle and twisted suture, I beg to offer the following remarks on the results of its application in cases which have fallen under my notice.

I was first led to make trial of this plan from reading the report of a case by Mr. Melvin, in the number of the *LONDON MEDICAL GAZETTE* for July 7th, 1838, and I have since applied it myself, or seen it made use of by the surgeons to the Chester Infirmary, in at least thirty cases, of several of the most important of which I have retained notes. The plan adopted has been that recommended in the paper referred to, of passing a common curved suture needle under the vein, constricting it with a thread in the figure-of-8 form, and having turned the needle on its side, retaining it there by straps of adhesive plaster: at the end of two or three days, the ligature, if only moderately tightened at first, will require to have a fresh one passed over it; and in two or three more the needle may be removed. Several different methods have been proposed for effecting the obliteration of the vein by the needle; but this, which was originally introduced by Velpeau, as being the most simple, is that which I have always adopted. The length of time which it will be necessary for the needle to remain will depend on whether it is intended simply to excite suppuration, or to ulcerate out; the last being the course which I have usually followed, as in one or two instances, in which the needle was withdrawn after exciting suppuration, the obliteration of the

vein was found not to have been effected. This plan has, however, been objected to as leaving a sore difficult to heal afterwards; but in only one instance have I seen it attended by any such result. For the needle to ulcerate its way out, the time usually required will be from a week to ten days; but it will vary greatly according to the state of the part in which it is applied: in the immediate neighbourhood of an ulcer, where the skin is thin and inflamed, a day or two will often suffice to commence the ulcerative action, and three or four for the needle to escape; while, when inserted some distance from the seat of disease, and beneath sound integument, the process will require ten days, a fortnight, or even longer. Thus, in a case lately under my charge, where the needle was inserted beneath a tender sinus on the instep, leading to a small ulcer about an inch above, it ulcerated out in three days; while at the same time, in another case, a needle was placed under each saphæna, and one beneath the common vein, at their point of union: the needle on the anterior branch was not removed till the twelfth day, and the other two not till the nineteenth. I have since seen two instances in which the needles were retained till the end of the third week. Generally speaking, when inserted over a bone, they excite ulceration more rapidly than when upon soft parts; and I am inclined to think that, in the last situation, they are more apt to give rise to an undue degree of inflammation: at least, in the only two cases in which their application was followed by troublesome abscesses, they had been inserted beneath sinuses in the calf of the leg. Considerable pain is sometimes excited by the operation, but it usually soon subsides; and I have not, in any instance, known tenderness to extend in the course of the vein above two or three inches from the point of constriction; and in none has it resisted ordinary treatment: indeed, in no instance which I have seen have any serious symptoms resulted from the operation.

The cases in which I have found this treatment applied have been in small irritable sores remaining after the bursting of large varicose sinuses, inveterate ulcers connected with a generally enlarged condition of the veins of the limb, and œdema of the leg and

ankle, either simple or attended with a serous discharge from the skin; and in all of the cases but two in which I have seen it had recourse to, the results have been most satisfactory; and in these, as only one needle was inserted, and other sinuses were left unobliterated, success was hardly to be expected. The number of needles which I have generally seen inserted has been three or four in each limb, but, in some instances, five or six have been applied; the rule adopted having been generally to insert in a case of varicose ulcer one under each enlarged vein an inch or so below the ulcer, and again on each trunk a few inches above it, selecting for the points of their insertion the largest sinuses. Sometimes I have adopted the plan mentioned by Mr. Dodd, of placing on each vein two needles an inch or an inch and a half apart, so as to effect adhesion of the sides of the intervening tract; and in these cases the main trunk will, after the cure is effected, be often found contracted to a firm cord up to the point at which the next large vein communicates with it; while, where a single needle only is inserted, the portion of the sinuses around is often not affected by the operation.

The effect produced on the sore by the obstruction to the course of the large veins in connection with it, is often most rapid; the inflamed margin gradually subsides, the edges become depressed, granulations spring up, and cicatrization quickly proceeds; and sores which have been liable to bleed entirely lose that tendency, the granulations becoming firm. I have, however, observed what has been noticed before by Mr. Dodd, that the healing process was not equally rapid throughout, the good effect produced by the needles sometimes gradually subsiding, and considerable difficulty being experienced in obtaining the entire healing of the sore.

In this way ulcers which had long been under treatment, without deriving any advantage, have, in several instances, been cured, and others which were found to return as soon as the patient resumed his work, have, by the aid of a laced stocking, been kept healed; indeed, not only does it appear to be a rapid method of effecting the cure of these cases, but I am inclined to regard it as also a more permanent

one. The first case in which I made trial of the practice was one of œdema of both legs, attended with excoriation of the skin, and a fœtid discharge, connected with a very varicose state of the large veins. The man, by trade a rope-maker, had been repeatedly under treatment before with very partial benefit; and no sooner did he resume work than the disease returned. On this occasion he had been subjected to the ordinary treatment during a month that he had resided in the infirmary, but with little or no advantage. Under these circumstances, as the case seemed to offer a fair opportunity for treatment with the needles, three were inserted beneath large sinuses in one leg, which was nearly well before the same plan was adopted in the other. He was discharged, entirely cured, on needles being introduced in the other limb, in six weeks from the commencement of the treatment. Two years have now elapsed, and he continues perfectly free from any return of his complaint.—Of two men one had suffered from varicose ulcers on both legs for nine years, the other for five; and both had been several times under treatment in neighbouring infirmaries, but no sooner did they return to their work, that of cotton-spinning, than the ulcers again broke out. Seven needles were inserted in the legs of one, and three in the other; and both were cured, one in seven, the other in three weeks, and continued so for at least four months, during which I had an opportunity of noticing them. Indeed the absence of any pain, swelling, or weakness in the limbs, which they said, as healed before, they had always found to continue, and the sound appearance of the cicatrices, afforded a fair prospect of permanent cures having been effected. The state of the limb afterwards, and the pale, healthy-looking cicatrices, form a great contrast between cases treated by this and by the ordinary methods.—I had a case recently under my charge, in which an ulcer, fully the size of the palm of the hand, was entirely cured in little more than a month, and this notwithstanding that copious suppuration was excited by the needles in the cellular membrane of the calf of the leg. This patient had previously been subjected to treatment for four months, with every advantage of circumstances for the cure of a sore in the same situation; and the case was

further interesting as being attended by severe pain in the sole of the foot—an occurrence which was met with in one of Mr. Dodd's patients—and having been an old man of 70; while Bonnet, in an essay on this subject published in Paris, has stated that the operation will not be successful after the age of 60, in consequence of the indisposition of the blood to coagulate, and that it should not be attempted. I heard of the man several months after his discharge; he was following his work, and his limb continued sound. I regret that, in consequence of most of the patients on whom the plan was tried in the infirmary residing at a distance, I am not able to speak of them after they left the institution.

The above remarks were written more than twelve months ago. I have now nothing further to add than that additional experience fully confirms the opinion expressed of the safety and rapidity of the cure of disease dependent on varicose veins, by the plan referred to, and I have reason to regard it as also a permanent one, care being of course taken to support the limb by a laced stocking or bandage, as otherwise the same cause which first gave rise to the varicose condition of the veins will lead to the dilatation of fresh ones.

Edinburgh, Oct. 15, 1841.

ON
ASPHYXIA, AND ON THE RESUS-
CITATION OF STILL-BORN
CHILDREN.

BY JOHN SNOW, M.R.C.S.*

(*For the London Medical Gazette.*)

RESPIRATION, in a limited sense, signifies the mutual change which takes place between the oxygen of the air and the blood; and this is not strictly a vital process, but only an operation of organic chemistry, since it continues after death as well as before, when the mechanical advantages for access of air remain the same. The celebrated Spallanzani, in his work on Respiration, has shown that snails and other animals, which respire chiefly by the surface of the body, continue after death to absorb to some extent the

* Read at the Westminster Medical Society on October 16, 1841.

oxygen of the air, and replace it by carbonic acid until the time when putrefaction commences. When insects are poisoned by prussic acid, they come to life again after a little time, because respiration has been going on by the tracheal tubes without any effort of the animal. We know likewise that venous blood can be changed to that of arterial tint by agitation with air out of the body, producing in the air the same change as respiration.

Respiration seems essential to the life of the whole animal kingdom, and when it is arrested from any cause the state called asphyxia is induced. Asphyxia in the human being, and the higher class of animals, after the foetal circulation is laid aside, presents the following phenomena:—The blood at once ceases to be changed in colour whilst passing through the lungs, and venous blood circulates in the arteries; but in a very little time the blood is refused admission through the capillaries of the lungs, and the circulation is arrested. The blood accumulates in the pulmonary arteries and the right side of the heart, whilst the pulmonary veins and the left side of the heart become empty. The heart continues to act for some time, and would propel the blood through the system if it would pass the lungs. Consciousness and voluntary motion soon cease, generally in from one to three minutes after the stoppage of respiration: convulsive motions and attempts at inspiration supervene, and continue for a short time, but all signs of life soon disappear.

It is a question whether insensibility is occasioned by the circulation of venous blood, or by the stoppage of the circulation. Bichat concluded that venous blood acted as a poison on the nervous centres and animal textures generally, and thus destroyed life, in which view he, no doubt, went rather too far, since no ill effects remain from the circulation of dark blood, if respiration be renewed in time. Dr. Kay and others conclude, from some experiments, that venous blood, although not so good a stimulus to the brain as arterial, yet tends to maintain life; but the ordinary venous blood which they injected was not so utterly deprived of its arterial properties as the blood of an asphyxiated person, which has circulated twice or thrice round the body. They might indeed have spared them-

selves the trouble of their experiments, if they had but considered that new-born animals in which the foramen ovale and ductus arteriosus are open, that all these, except a few species which are born in a very immature state, with the eyes closed, die when drowned nearly as quickly as adults, although venous blood continues to be sent to the brain and all parts of the system: the action of the heart being the last sign of the heart to disappear. Moreover, Dr. John Reid, of Edinburgh, has lately shown, by direct experiment, that voluntary motion ceases in asphyxia before the force of the circulation is diminished. It is clear, then, that blood which has totally lost its arterial properties, is unable to maintain sensibility or even vitality. The arrest of circulation at the lungs, however, may probably shorten life by some seconds, or even by a minute or two.

It has been a subject of conjecture with physiologists whether the carbonic acid gas produced by respiration is formed in the lungs by direct union of the oxygen of the air with the carbon of the blood, or whether the oxygen is absorbed and dissolved in the arterial blood, and unites with carbon in the capillary circulation of the system, where the blood becomes venous, forming carbonic acid, which is given off in the state of gas into the air-cells of the lungs. The latter theory has been shown to be the correct one by the experiments of Spallanzani, repeated by Dr. Edwards, on respiration in hydrogen gas, and by the experiments of Professor Magnus on the blood. The formation of carbonic acid by respiration is no doubt the chief if not the sole cause of animal heat. The quantity of heat developed just about equals the caloric that would be given out by the union of oxygen and carbon under any other circumstances to form the amount of carbonic acid produced by respiration, and the development of carbonic throughout the animal kingdom bears always a direct proportion to the quantity of carbonic acid evolved. On these considerations respiration has been compared to combustion, and the lungs to a furnace; but as we have seen that the carbonic acid is really produced in the capillary circulation of the system, and only evolved by the lungs, the whole body ought to be compared to the furnace, and the lungs to the

draught and chimney department—a view which better explains the uniform diffusion of warmth throughout the body. It may be asked whether asphyxia is occasioned by want of oxygen in the blood, or by the poisonous effects of the carbonic acid detained in it? The former is the correct view, since asphyxia takes place in nitrogen or hydrogen gas the same as if respiration were stopped, notwithstanding the mechanical process is continued, and the carbonic acid continues to be given off from the lungs.

Several theories have been advanced to account for the arrest of the circulation through the lungs, but that of Dr. Alison is by far the most satisfactory; viz. that the motion of the blood in the capillaries is assisted by the vital attractions connected with the chemical changes which are constantly going on to effect nutrition and secretion; and that consequently, when the supply of oxygen is cut off, and the chemical change of the blood is prevented, the heart of itself is unable to propel the blood through the capillaries of the lungs. This opinion has lately been strengthened by the discovery of Dr. J. Reid, that there is in asphyxia an impediment likewise to the passage of the blood through the capillaries of the greater circulation, when the opposite change would be taking place in the blood if it were not already in a carbonized or venous state.

A consideration of great practical importance in the study of asphyxia is, the influence of the temperature of the medium in which it takes place. Dr. Edwards, of Paris, by a most extensive and beautiful set of experiments, has proved that throughout the animal kingdom asphyxia is much more sudden at a high than at a low or moderate temperature; and that even cold-blooded animals, which will linger for hours deprived of oxygen at a low temperature, will die as quickly as mammalia or birds in water at blood heat: even fishes will die in a few seconds, or at most two minutes, in water at 100° Fahrenheit, that has been deprived of its air by boiling, although this temperature would not injure them with sufficient air. He found that new-born mammiferous animals die most slowly in water at about 60 degrees, which is ordinary cold water, and that they die much more quickly

as the water approaches blood heat. Dr. Edwards advises that persons in the state of suspended animation should, amongst other measures, be exposed to the cool air; and that the application of heat should be avoided, unless indeed just a momentary application, to endeavour to arouse sensibility. The Royal Humane Society, however, directs the application of warmth in all practicable ways, not only as an auxiliary to artificial respiration, but even to commence with, if the means for the latter are not in readiness; and most authors, I believe, coincide with the views of the Humane Society. Dr. Edwards considers it is by its effects on the nervous system, and through that on the heart, that a high temperature produces its effects. I think that, although the nervous system may be affected, and is probably the channel of its impression, yet that the deleterious effects of an elevated temperature, when respiration is stopped, depend on its stimulating the capillary circulation of the system, and thus promoting the de-oxygenation of the blood, that change which is antagonistic of respiration, which rules its extent under all circumstances, and which, in fact, constitutes the necessity for having a respiration. But, whatever view we take of this point, the fact of the influence of temperature on asphyxia proves that the application of heat ought to be avoided until respiration is thoroughly established, when it will, no doubt, be a useful auxiliary to restore sensibility and renovate the patient.

The number of children that die of asphyxia at the time of birth is very considerable. Writers on midwifery have stated that one-twentieth of the children brought forth are still born, and of these a large proportion are asphyxiated, from various causes, often at the very moment of birth. The first measures that are generally and very properly adopted, when a child is born in a state of suspended animation, are to admit the cool air to its skin, to dash a few drops of cold water on it, and use similar means to arouse sensibility, more especially that of the nerves of respiration. From the great vascularity and sensibility of the skin, and the thinness of the cuticle of new-born children, great benefit may be expected from the access of air to the surface of the body. Immersion in

warm water is sometimes had recourse to, and I have seen it completely successful in two or three instances, after the means just enumerated had failed; but this is a dangerous measure, one which, if it do not succeed, will quickly extinguish any possibility of recovery which may exist, as we have already seen. The great object in this, as in every case of asphyxia, is to establish respiration; and if the patient cannot be roused to perform natural breathing, artificial respiration must be had recourse to as quickly as possible.

Several eminent authors on midwifery recommend breathing into the lungs of the child, if other means are not at hand; but not much good can be expected from a measure which would undoubtedly suffocate a living child, and where there is any disposition to natural breathing this will be decidedly injurious. Allen and Pepys found that air which had been once breathed contained about 8 per cent. of carbonic acid, and that if the same air were breathed over and over again, till suffocation was felt, it would contain but 10 per cent. of the same gas.

The apparatus in ordinary use for artificial respiration is the bellows; but this, although much better than blowing with the breath, is liable to many objections: first, there is danger of injuring the texture of the lungs by over distension; then there is a difficulty of expelling the air from the lungs after it has been injected; and the delay occasioned by thus expelling the air, by pressing on the chest and abdomen, renders it impossible by means of bellows to imitate natural respiration, in which there is a constant current of air to and fro in the lungs.

Mr. Read* was introduced to this society three years ago, by Dr. James Johnson, when he laid before us an invention for performing artificial respiration much superior to the bellows. It consisted of a syringe for exhausting the lungs by the mouth, the nostrils in the meantime being held, when, on removing the pressure from the nostrils, the chest expanded again by the natural elasticity and resiliency of the ribs, muscles of respiration, and pulmonary tissue, causing a tendency towards a vacuum; and the air instantly entered by the nostrils, from atmospheric pressure, as in a natural inspiration;

when it was again withdrawn by the syringe, and became renewed in the same manner. I at that time considered whether the same plan could not be adopted for the restoration of still-born children; but there were insurmountable difficulties. The lungs were in this case empty, to begin with; and even if one should commence by an artificial inflation, the chest could not be expected to take on all at once that resiliency which it acquires in after life, no doubt from the fact of the lungs never being again emptied after respiration first commences. So the matter rested, until a short time ago, when Mr. Read, knowing I took an interest in the subject, called to shew me an improvement in his apparatus, which indeed he had brought to such perfection, that the use of it on himself would supersede his natural respiration for an hour together without inconvenience. I then suggested that he should make a little instrument on exactly the same plan, adapted to the size of new-born children. It consists of two syringes, one of which, by a tube adapted to the mouth, and closing it, withdraws air from the lungs, and the other syringe returns the same quantity of fresh air through a tube fitted to the nostrils. The two pistons are held in the same hand, and lifted up and pressed down together, the cylinders being fixed side by side, and each having two valves. When the pistons are raised, one cylinder becomes filled with air from the lungs, and the other with fresh air from the atmosphere, which can be warmed on its way by passing through a tube and metal coil placed in hot water. When the pistons are depressed, the latter cylinder is emptied into the lungs, and the air in the former is ejected into the atmosphere. In this way a constant current of air to and from the lungs is maintained, as in natural respiration. The introduction of warm air is no doubt a great advantage. The objections to the application of heat during asphyxia cease, so soon as there is a proper supply of air to the lungs; and in introducing heat in this way, it must be remarked that we are only warming that blood to which we are at the same time imparting its arterial properties. This artificial respiration should be persevered in for some time, say an hour at least,

* Regent Circus.

before we give up in despair; and if our efforts be successful, we should still persevere until the child is completely revived, and capable of carrying on a full and effective respiration of its own: for the secondary asphyxia which so often comes on, arises, in my opinion, from an efficient respiration not having been established, whence the blood remains in a badly oxygenated state, and does not rouse the nervous system to its full sensibility, but allows it to remain in a condition, so to speak, of not truly appreciating its own want of respiration. I know an instance where the breathing of a child was accidentally interfered with just after birth; and although not to the extent of producing asphyxia, respiration was never properly performed, and the child died after a few hours.

Comparing the weight and size of the lungs of a new-born child to those qualities of adult lungs, the former may be expected to contain nine or ten cubic inches of air. Each cylinder of the instrument before the society contains an ounce and a half by measure, or somewhat less than three cubic inches; it can consequently be used without the lungs ever being either empty or distended. In the case of a still-born child, I should recommend that the exhausting syringe be used first to remove any mucus there may be about the fauces; then, since the lungs are empty, a little air may be injected with the other syringe, before beginning with the pistons raised to work the two syringes together.

An accoucheur can scarcely be expected to have an instrument with him at every labour; but it fortunately happens that the danger of asphyxia to the child is frequently foreseen, sometimes before the conclusion of labour; since it may be apprehended in all preternatural presentations, in cases of hæmorrhage, in difficult parturition, and from various other causes. The instrument may be useful likewise to perform artificial respiration in poisoning with opium, ardent spirit, or prussic acid, in sudden death from fits in children, and in other cases which will suggest themselves. The syringes can be separated and used as stomach or enema pumps, with the appropriate pipes that are supplied.

Oxygen gas is sometimes mixed with the air to be thrown into the lungs of

asphyxiated persons. I imagine that with a good artificial respiration, such as this instrument will supply, atmospheric air will be sufficient without additional oxygen: if, however, it be deemed advisable, oxygen gas can be generated in great purity, in a few minutes, from chlorate of potash, by means of a spirit-lamp and a small retort, and can be mixed in any quantity with atmospheric air in one of the bags belonging to the instrument. No harm can arise from thus using oxygen, unless it should be continued for some time after recovery.

With respect to electricity, the form of galvanism is the most convenient one in which to apply it; and there can be no harm in administering slight shocks after these other means have failed. But the chief intention of electricity is to excite the respiratory movements; and this is fulfilled by an efficient artificial respiration. I believe that oxygenating the blood in the lungs is the most effectual means to restore the action of the heart; and that it will restore it if that organ retain any irritability, and the blood be not coagulated. The elasticity of the pulmonary arteries will probably enable them to expel a little of the blood with which they are distended through the capillaries, so soon as the re-establishment of the chemical changes will allow it to pass; and this reaching the left side of the heart, may restore the functions of that organ. As an instance how long the heart may retain its muscular irritability, and the effect of respiration on it, I may mention an observation I made on a guinea-pig which I drowned. It died in two minutes; and when it had been dead an hour, I opened the chest, and found the right side of the heart distended with blood, the left side not containing much, and the heart was perfectly still. In a little time the surface of the lungs became changed in colour, from the air imbibed through the pleura pulmonalis; and I was surprised to observe a slight vermicular motion in the right auricle. I divided the trachea, and performed artificial respiration, and shortly observed that the ventricles began to move, and that some bright red blood was visible through the coats of the left auricle. Rhythmical contractions of the heart continued for three-quarters of an hour, at the rate of twelve in

the minute. The contractions, however, were not complete, and the blood was not expelled from the heart. I found, on opening that viscus, that there was coagulated blood in all its cavities.

Physiologists have amused themselves in speculating on the cause of the first respiration; but doubtless it is the same as of the second and third, and all the succeeding respirations; namely, a sensation or impression arising from a want of oxygen in the system, and conveyed to the medulla oblongata, either by the blood circulating in it, by the nerves in connection with it, or by both causes. The placenta undoubtedly performs for the fœtus the office not only of the lungs, but of all the great excretory organs; and so long as the placenta performs its functions, the fœtus is perfectly at ease and feels no need of respiration; but whenever this communication between the child and its mother is interrupted, at least in the latter months of pregnancy, the child, as every accoucheur has experienced, makes convulsive efforts at inspiration, similar to those made by a drowning animal; efforts which would be successful inspirations provided the child were in an element which would be admitted by the glottis. Moreover, I have remarked that even a strong child does not always begin to breathe the minute when it is born; but if the umbilical cord be pressed between the fingers it will instantly draw an inspiration.

It is an interesting question how long a complete interruption of the placental functions may have place in a child at full term, before all signs of life will disappear, and a state of suspended animation be produced. Moralists have often asserted that human beings come into the world in a more puny and helpless condition than any other animals; but in this they are mistaken; for, without including marsupial animals, the young of cats, and all those that are brought forth with their eyes closed, cannot maintain life without artificial heat, which they receive by lying close to the mother: in fact they can scarcely be said to have a proper temperature of their own. A child born at the full term, on the contrary, can maintain its temperature if well protected from cold. Now Dr. Edwards has proved that the necessity of respi-

ration is intimately connected with the power of generating caloric: kittens and puppies will linger for half an hour or more in water at a favourable temperature; but those young that are able to maintain their own warmth do not possess much advantage over adults in their power of resisting asphyxia. But even new-born kittens, in water at the heat of human blood, do not live more than ten minutes; so that a fœtus in the uterus, at a temperature of one hundred degrees, or rather more, must be very soon reduced to a state of complete asphyxia; and the experience of medical men, I believe, pretty well coincides with this conclusion. With a seven months' fœtus it will be somewhat different, as it is more in the condition of those young that require artificial heat. The new-born child, however, from its open foramen ovale, and the great vascularity and sensibility of its skin, probably possesses some advantages over the adult in its capability of being restored from apparent death.

THE VACCINE.

To the Editor of the Medical Gazette.

SIR,

ALTHOUGH I have no hesitation in responding to the wish expressed by Mr. Coles, in your journal of last week, relative to the asserted production of the vaccine from the matter of the disease called by farriers "the grease," yet I do not imagine that it is in my power to furnish, either from my own observation or from my knowledge of the experience of others, any facts or arguments better calculated to illustrate the point under discussion, than he is at present acquainted with, or the profession already possess. My own observations, certainly, have not yet furnished me with any facts tending to prove the generation of the vaccine, either in man or the cow, by the matter of "grease;" nor have I ever been induced, from an attentive consideration of the observations and experiments of others, to suspect even the probability of such origin. That disease of the horse which, it is well known, furnishes a lymph strictly identical with the vaccine, has never fallen under my immediate notice;

though, for many years, I have diligently sought for it. But a close observation of the papulo-vesicular disease occasionally found in connection with the œdematous leg of the horse, and especially of the minute eczematous vesicles not unfrequently seen on the really "greasy heel,"—resembling, as it appears to me, eczema impetiginodes, or intertrigo cum eczematæ of the human subject—and a due consideration of their nature, causes, and effects, have never, to my mind, furnished stronger indications of their identity with the equine disease, than are to be found between the true vaccine of the cow and the other eruptions of the same animal.

The term "grease" has certainly been employed by many who have observed the disease now generally designated "equine," or variolæ equinæ, although the definition and diagnosis of the latter disease have afforded the best reasons for disputing the correctness and propriety of the former appellation. But some observers have not followed this example, and I shall presently allude to one whose early and just discrimination seems not to have attracted that attention which its correctness deserved, and which, even up to this period, as far as I know, has not been duly appreciated.

Dr. Jenner's description of the disease which he once called the "grease" would not now, I think, be considered by many practical veterinarians strictly entitled to that denomination. Though incomplete, it should not be forgotten in any discussion of this subject. "An eruptive disease of a vesicular character. The vesicle containing a limpid fluid; showing itself most commonly on the heels. The legs first become œdematous, and then fissures are observed. The skin contiguous to these fissures, when accurately examined, is seen studded with small vesicles, surrounded with an areola. These vesicles contain the specific fluid. He had detected the disease in connection with a sore on the neck of a horse and the thigh of a colt*."

Mr. Tanner is said to have had the merit of first proving, by direct experiment, that such lymph was capable of producing, on the cow, a perfect vaccine vesicle. But by the late Mr. Lupton,

of Thame, the difference between this disease and "grease," as far as I know, was first recognized and asserted.

In the communication of Mr. Lupton's observations, by Sir Christopher Pegg, to Dr. Jenner and the public, through the medium of the *Medical and Physical Journal* (Vol. iv. November 1800*), it is stated, "that having seen vesicles resembling the vaccine on the hand of a patient, who had had no communication with cows, but who had washed the ulcerated heels of a horse, Mr. Lupton conceived that there might be a disease incident to the horse, analogous to the cow-pox, and communicable to the cow; and, upon repeated inquiry, he was satisfied that it was not the common grease to which horses are liable, that had produced the above effects." Other cases, and repeated observations, convinced him "that the disorder of the horse's heels was that which was termed, by farriers, a scratchy heel, and considered widely different from common grease†."

Dr. Loy, of Whitby, in 1801-2, met with the disease, and performed several satisfactory experiments. He ascertained that it differed from common grease, inasmuch as it was preceded by fever, considerable indisposition, and was relieved by a general eruption, and, of course, contagious. Yet he called it "grease‡."

Sacco, of Milan, in 1803, discovered the disease; and although he considered he had, by his experiments, adduced further proofs of the origin of vaccine in grease, suggested to Jenner the propriety of adopting another term of designation, viz. equine. "C'est donc bien sûr et consenté, que le grease est cause de la vaccine, et on pouvoit bientôt changer la denomination en

* Page 382-3.

† In conversation and correspondence with my friend Mr. Henry Lupton, of Thame, surgeon, son of the above gentleman, I am kindly favoured with the following particulars:—"That though so many years have elapsed since the occurrence of this event, he distinctly recollects that the horses affected were out of order, (affected in their general health), had small vesicles on the heels filled with transparent lymph, attended with shallow cracks, but not degenerating into the excessive swelling, or attended with the thick foetid discharge of common grease. That he has not seen any similar cases since, but is acquainted with two experienced intelligent farriers who recognized the difference between "grease" and "scratchy heel," independently of the contagiousness of the latter.

‡ Loy on the origin of Cow-Pock, and Ring on Cow-Pock, part ii. p. 921.

equine, ou en ce que vous croyez mieux.”

Dr. De Carro communicated to Jenner the fact, that Dr. La Font, of Salonica, had discovered the same disease in that neighbourhood. The farriers there divide the grease, which they call *jarart* into three species—the phlegmonous, the scrofulous, and the variolous. With the last species Dr. La Font produced the vaccine vesicle. M. Godine, and still later, many others, have seen the disease in question: some have confounded it with “grease,” others, as Dr. Kahlert, of Prague, have pointed out the distinction*.

But I fear I have already trespassed too much on your columns, and must, therefore, with your permission, resume the subject next week—I am, sir,

Your obedient servant,

ROBERT CEELY.

Aylesbury, Oct. 2, 1841.

ON THE CHIASMA OF THE OPTIC NERVES.

To the Editor of the Medical Gazette.

SIR,

SOME reflections on the purport of the crossing of the optic nerves, which occurred to me recently, when preparing for the press a second edition of my Engravings of the Brain, I send to you for insertion in the MED. GAZETTE, if they appear to have sufficient interest.

In vertebral animals the nerves which supply one side of the frame are, with one remarkable exception, exclusively derived from the same side of the central organs of the nervous system.

The exception is made by the optic nerve; but the following considerations will shew that it is only made to preserve functional analogy:—

1. The simplest arrangement of the optic nerves is that which occurs in osseous fishes, in which the nerve of one side crosses over or under the other, touching it, but with no mutual implication of their filaments, and is entirely distributed to the retina of the opposite eye.

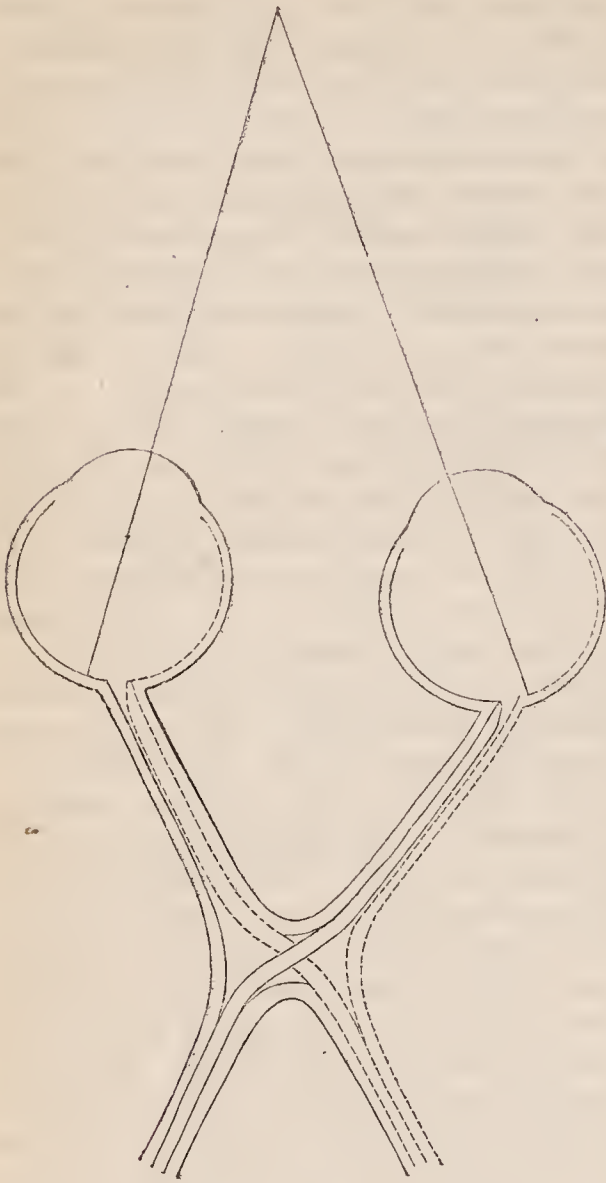
2. The most complicated arrangement is exemplified in man. In man the commissure of the optic tracts (as

* Almanach de Carlsbad; Dr. Baron's Life of Jenner, vol. ii. p. 232; also Mr. Coles's communication.

the junction of the two nerves is called) displays the following structure:—Each optic tract consists of three bands of filaments or nerve tubes—an outer, a middle, and an inner. Each optic nerve likewise consists of an outer, a middle, and an inner series of nerve tubes. The inner series of each may be at once disposed of: they are strictly commissural. The inner band of one optic tract coalesces with its fellow, forming the posterior border of the commissure, and unites the origins of the two nerves. The inner band of one optic nerve coalesces with its fellow, forming the anterior border of the commissure, and unites the two retinae. Of the two bands of the optic tracts which remain, the middle decussates its fellow, and thereupon forms the middle band of the opposite optic nerve, and, from the place of the insertion of the optic nerve in the retina, may be presumed to be distributed to part only of its inner half. The outer band of the optic tract is produced to become the outer band of the optic nerve of the same side, and one would again conclude, from the place of insertion of the optic nerve, that it may supply the outer part, more than half, say five-ninths or more, of the field of the retina, including the axis of vision. Already, then, in the human eye, part of the seeming exception is removed. The disposition of parts described is figured in the adjoined diagram, in which the outer and middle fasciculi of one optic tract are marked by dotted lines, as well as the parts of the two retinae they probably supply.

3. The questionable part of the preceding account of the human chiasma is the assumed anatomical relation of the non-decussated or outer, and of the decussated or inner filaments of the optic nerve to the outer and inner parts of the retina: if that anatomical relation, suggested by the place of entrance of the optic nerve, prove correct, the explanation which follows can hardly fail to be just; and the agreement of the explanation with the hypothetical point of structure may be now urged as much in favour of the latter.

4. In the cod, as one type of osseous fishes, the eyes placed laterally, and directed outwards, cannot be simultaneously turned to the same object. The two optic axes either diverge, or lie in the same right line.



5. In man, to take the opposite extreme, the two eyes, directed forwards, are turned simultaneously to the same objects. The two optic axes in all positions converge. They refer to a common visual axis, which would be represented by a right line perpendicular to the middle of the right line which joins their retinal extremities. The visual axes of the two eyes always meet at one or other point of this line, whether that point be five inches from the face, or at the distance of a fixed star.

6. Retinal surfaces may, then, be divided into two classes; those which can be turned towards a common visual axis, and those which cannot. To the former belongs that part of the human retina which is to the outside of the middle of the termination of the optic nerve in the eyeball. To the latter belongs the remaining part of the human retina, and the whole retina of the eye of the cod.

7. Then the expression of the facts of the distribution of the optic nerves will be this. The two classes of retinal surfaces specified are supplied from

opposite sources. The retinal surface which can be directed to a common visual axis is supplied by the optic nerve of the same side; the retinal surface which cannot be so directed is supplied by the nerve of the other side. The first is assumed to be the case of the outer five-ninths of the human retina; the second with the inner four-ninths, and with the entire retina of the cod-fish. It remains to be ascertained, whether the intermediate cases correspond with this law.

8. This law does not tally with the usually received idea, that the corresponding parts of the human retinae are supplied by one nerve; for, according to it, the vicinity of the optic axes, where alone vision is perfect, is supplied, in each eye, by a different nerve.

9. But the hypothesis referred to is not needed physiologically. To explain single vision with two eyes, the well-known law of visual direction for each eye, and the consideration that what is seen by both eyes to cover the same point of space cannot appear double, are sufficient.

10. Neither is this hypothesis needed pathologically. It was adopted, indeed, by Dr. Wollaston, as the best mode of explaining an affection which he had himself experienced, namely temporary loss of vision, in both eyes, of the same half of objects. This phenomenon he thought evinced that the corresponding parts of the two retinae are supplied by one nerve, as that conjecture enabled him to suppose the cerebral affection originating it to be located in one hemisphere, instead of exactly in the same part of the two. But the phenomenon is one which I have known to alternate with temporary loss of vision of the circumference and of the centre of the retinae. The three phenomena, being alternative, no doubt proceed from a common organic source; but as Dr. Wollaston's hypothesis will not explain two of them, it is probably not the right explanation of the third.

These views are new to myself, but I have read so little physiology of late that I may have been anticipated by Müller, or Purkinje, or some one else, without knowing it.—I am, sir,

Your obedient servant,

HERBERT MAYO.

19, George St. Hanover Square,
October 29th, 1841.

P.S. The following method of putting

the same views should go with the other:—

1. Each of the other nerves has its function limited either to the right or left side of the frame.

2. By analogy, therefore, the optic nerve should be employed in looking either to the right or left exclusively.

3. Accordingly, in osseous fishes, to take the clearest instance, each nerve is employed in looking to one side only; the right looks to the left, the left to the right.

4. By analogy, therefore, in man, likewise, the right optic nerve should see to the left only.

5. To determine whether this is the fact, it is necessary to determine which way the retinal surfaces in both eyes are directed. The fitting position of the eyes, for this examination, is that in which they are looking at a small object held immediately in front of the face, at the level of the eyes, and at the nearest point for distinct vision. In this position almost the whole of that portion of the right retina which lies to the outside of the entrance of the optic nerve is directed to the left; and the exactly different, complementary, or inner portion of the left retina, likewise is directed to the left.

6. Then, by analogy, the right optic tract should supply filaments to the portions, so specified, of the right and left retinae.

7. And it is anatomically probable that this may be the case, considering that the outside of the right optic nerve, and the inside of the left, consist of filaments from the right optic tract.

8. The same is further probable on another analogy; as then the part of the retina employed in the highest function of vision would have its nerve *from the same side of the brain*.

9. If the anatomical relation between the parts of the optic nerves and the retinal surfaces, so rendered probable, turn out to be correct, the simple expression of the facts will be—"In vertebral animals the right nerve is employed in vision to the left, the left in vision to the right;" or for those which have single vision with two eyes, for "left and right" should be substituted "left and right of the common visual axis."

ANALYSES AND NOTICES OF BOOKS.

"L'Auteur se tue à allonger ce que le lecteur se tue à abréger."—D'ALEMBERT.

A Treatise on the Nature, Causes, and Treatment of Erysipelas. BY THOMAS NUNNELEY, Lecturer on Anatomy, &c. in the Leeds School of Medicine, &c. 8vo. pp. 306. London: Churchill.

By its motto we discern that this is the treatise respecting which a correspondence between the author and the London Medical Society was not long since published in this journal; and the reading of it has confirmed us in thinking that the rules of that Society, respecting the awarding of prizes, are not the best adapted for the purposes professed. It would have added to their reputation if this work had been published under their auspices.

The author does not limit the term erysipelas to the spreading inflammation of the skin, but includes under it all inflammations that are marked by a peculiar tendency to spread: believing that they all depend on a particular constitutional condition; "that any injuries of precisely the same nature, which in one person shall induce a limited local action—phlegmon—shall in another person, or even in the same person at another time, induce a local action in which there is considerable tendency to spread far and wide—diffuse inflammation or erysipelas, in which (contrary to what are characteristic of the limited inflammations) the constitutional symptoms are those of great action with little power, and where depletants are not only not indicated, but are positively injurious. Further, that these different states may arise without any external injury, in which the local action may be exhibited upon the surface of the body, or be thrown upon an internal membrane, according as there may be some peculiar determinating cause in the part itself or elsewhere. Thus, what in one person would take the form of ordinary acute peritonitis, in which the inflammation is limited by the effusion of coagulating lymph and the agglutination of contiguous parts to each other, would, in another, as a puerperal woman, assume the character of diffuse inflammation, not limited by the adhesion of neighbouring parts, and in

which the effusion is more copious, consisting principally of serum with portions of soft lymph floating in it."

The main scope of the first half of the work is to prove that all those spreading inflammations, including erythema, erysipelas commonly so called, diffuse inflammation of the cellular, mucous, and serous membrane, puerperal fever, probably some forms of arachnitis, diffuse phlebitis, and the corresponding form of inflammation of the absorbents, are in their essential nature identical: that they result from the same causes; that by one form another may be induced; that two or more may exist together, either as epidemics or in the same individual; that they inseparably run one into another; that they have nearly the same constitutional symptoms and local changes, and require all one general plan of treatment. The design is not novel; for many writers have pointed out, and every one of experience must have discerned, a general similarity in spreading, or, as they are often called, erysipelatous inflammations, wherever seated: but we do not think any one has treated the subject so fully or with such singleness of purpose as the author. Nor can we deny that he has proved a very intimate relation between all these affections, and rendered it probable that they all depend for their essential peculiarities on a certain form of constitutional disorder, the same in all, and receiving peculiar local characters from subordinate and less essential circumstances. Yet the fundamental one condition on which they all depend is in no measure ascertained: we see a close relation between them all; one close enough, in the similarity of the character of the general affection, in the resemblance of the wide-spread local effects, and of the inducing, cause to make us regard them all as members of one family, the offspring of one common parent-malady; but what that parent is, is utterly obscure. We cannot tell, neither does the author much attempt to discern, whether it be a peculiar condition of the blood, which is very probable; and if it be, in what that peculiarity consists, how it is engendered, or how its influence may be neutralized. The primary element of the erysipeloid disease is yet unknown.

The second part of the work is occu-

pied with the consideration of the causes, the signs, and the treatment of external erysipelas: all of which are fully treated of, though in the style rather of a reader, and a submissive thinker, than of an observer; for, in nearly every case, after summing up all the authorities that can easily be mustered, the author ends by taking the middle course between them, as if neither side could have been in error. On the whole, however, the work merits approbation. It contains all the evidence that can be adduced to render probable the similarity of nature of all these important affections, and thus gives a guidance which, in their investigation and treatment, cannot fail, if cautiously followed, to lead to good; and, on the subject of erysipelas commonly so called, it supplies all the information which is scattered through a vast number of records, many of which are scarcely accessible to the majority of readers.

Observations on the Analogy between Ophthalmic and other diseases: being the substance of a paper read at King's College, London. By CHARLES VINES, M.R.C.S. Surgeon to the Reading Dispensary.

AN interesting little brochure, in which the analogy between disease occurring in the eye and other organs is extremely well shown.

MEDICAL GAZETTE.

Friday, November 5, 1841.

"Licet omnibus, licet etiam mihi, dignitatem Artis Medicæ tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

THE POSITION OF THE CHEMISTS.

WE have reason to believe that some observations which we ventured to make a few weeks ago, on the chemists and druggists, were in a measure misunderstood, and that we were supposed to have maintained the opinion that that which is commonly called *counter practice*—the habit of advising and selling medicines, followed by persons

neither educated nor licensed for the former purpose—is not so mischievous as it is commonly stated to be, or, at least, that there are circumstances which may palliate or altogether excuse it. Nothing certainly was farther from our intention than this; nor, we believe, can any thing be much more distant from the fair and obvious meaning of the expressions we used. Not to quote or paraphrase upon our former words, we may at once and briefly say, that we regard the medical practice of chemists and druggists, as it is at present carried on, *to be fraught with unmixed evil to the sick*; though at the same time we hold that there may be plans devised, which would constitute of persons holding the rank which chemists now do, a body of medical practitioners very useful to the public; and, moreover, that the circumstances of the times render it very probable that some such plans as these may ere long be resorted to.

We have never doubted the perfect legality or the strict justice of the decision last given in the case of the Apothecaries' Company against Greenough: indeed, both before and after it was published, we stated plainly that such a decision alone could satisfy either right or equity. Yet this is far from holding that the present position of medical practitioners is the best which is possible for the interests of the public; or that the exclusion of a man from medical practice merely because he sells drugs, and is a chemist, is, without any reference to his competency for practice, a just thing. As chemists are now, they cannot be practitioners of other arts than their own without danger to the public; but, as they might be, and as we think it probable they will be, they might be permitted to practise for the public benefit.

In the present day it is very evident that cheapness is in all things a prime

consideration: one cannot walk the streets without having the fact thrust before one's eyes: cheapness is in all things held out as the most attractive advantage: good quality is the useful *pendant*, but not the essential. The truth of this is felt in every trade and profession: but there is certainly no class who find it harder to compete with the good quality of knowledge, against the attractive fallacy of cheapness, than the class of medical practitioners. We have often maintained the existence of this evil, and have as often pointed to it as the main cause of many of those professional inconveniences which others are pleased to refer to errors of medical polity: and lately we have been reminded, by the letter of our correspondent Mr. Hodgson, of another class of facts which strongly confirm our position. The facts we allude to are those of daily occurrence, in which persons who might be reasonably supposed to be capable of paying the ordinary charges of medical attendance, yet refuse to do so, and resort for the relief of their maladies to public charities. There cannot be a medical officer of any hospital or dispensary who has not frequently been struck with the respectable exterior of some of his patients, or who has not sometimes hesitated, or even refused, to spend the funds of a charity on such as might, to all appearance, be more properly contributors to them than pensioners upon them. Now, with some of this class of applicants for charitable relief, there is no other reason than meanness; but many others, and probably the majority, apply very unwillingly, and not without wounding their pride. Now these are compelled to do it by their incapacity to meet the necessary expenses of the attendance of any respectable practitioner. They know, or guess, that a chemist cannot be safely trusted, yet they cannot afford to pay for better

advice than his; and they therefore seek it where they can have it at no other cost than that of humbling themselves. And thus they at once lose some of their own respectability, injure the funds of a charity, and lessen the extent to which it might be useful to the more absolutely needy, and diminish that sum which ought to be paid by the public to the maintenance of a body of educated and competent medical practitioners. By how great an amount that sum is diminished we cannot say, nor indeed would it be possible to ascertain; but no one conversant with the subject can doubt that the loss is very great, and one which it would be of great moment, both to medical charities and medical practitioners, if it could be redeemed.

Now what bearing have these and other facts of the like kind on the question before us? Why plainly this: they prove that a great body of the public, who could pay practitioners on lower terms, either cannot, or will not, afford to pay them on such terms as are now of necessity demanded; and that, rather than do this, they will go either to unlicensed chemists or to medical charities, or (which is perhaps most common) to the chemists, till they find themselves injured, and then afterwards to the charities. They prove, therefore, that so long as the expense of medical attendance remains at its present level (and we trust we shall never see it lower), for so long is this portion of the public lost, as far as profit is concerned, to the licensed part of the profession. Nor can there be any reasonable hope that, in our generation, they will be regained; England has, in all probability, seen its richest days; nor is it likely that, as the number annually entering our profession grows less, the station in society from which they are drawn, and which they will be anxious to maintain, will become lower.

But if there be a large portion of the public who are virtually deprived of good medical advice by the misfortune of being just too poor to pay those who could do them good, and just too rich to be proper objects of charity, something must be done for them; and what we suggest is, that the chemists, to whom they now resort, should be not only allowed, but compelled to make themselves competent for a certain amount of medical practice, and that, when so competent, their practice should be sanctioned. It sounds very well to say that the Apothecaries' Company, now that their rights are fully and legally established, will suppress all *counter practice* by prosecution; they might as well attempt to suppress the smuggling which is carried on in the teeth of a body of excise and a preventive service whose men are spread through every town and village in the land. They may prosecute fifty, or a hundred, or, if they please, five hundred, and may gain penalties from all; but five thousand will still remain, and each of them will still persist in his wrong practice, though he knows not but he may be the next victim of the law. For the public do not regard such practice as dishonest, though they themselves are in the end the parties aggrieved; they rather look on the convicted offenders as martyrs in their service, and support them in their downfall. And thus the offender is sure of not being subjected to that which is, after all, a severer punishment for a fault, or, at least, a more efficient prevention of it, than any penalty—the contumely of his fellow-men.

Now if this be true, we cannot see that more than two courses are open for the improvement of our condition. The first is, to give more power to the existing institutions, by making the invasion of their rights a far more serious offence than it now is. The

other is to render those who now practise illegally and ignorantly, fit to practise legally. It is a principle frequently acted on in general politics, and one which numberless facts prove to be a sound one, that the best way to prevent crime is to remove the temptation to it. And it would only be in accordance with this principle if it were allowed that persons holding the social position which chemists now do, might practise certain parts of medicine when, after a competent education and due examination, they had proved themselves fit to do so.

We must repeat, lest we should again be misunderstood, that in this proposal there is nothing which can serve, in any wise, as a palliation for the present system of counter practice. At present druggists are utterly ignorant of medicine. A tailor might as well profess to teach anatomy as they to practise for the cure of disease; and of all who commit themselves to the hands of chemists, those who escape unscathed can only thank their good fortune that they were not easily susceptible of injury. But chemists are not beyond the possibility of improvement; and if there be, as we believe there are, a number of persons who, either by choice or by compulsion, employ them rather than the licensed practitioners, their interests demand that something should be done to secure their safety. And the necessity of some such measure as we have described, will become every year more, in the same proportion as that respectability of the licensed part of the profession, which is so worthily a subject of congratulation, continues progressively to increase.

PRACTICE ABROAD.

WE wrote a short time since on a scheme for obtaining diplomas, for any who did not think themselves disgraced by pos-

sessing them, from a celebrated continental university, and said it was disgraceful that in this country there existed no power whatever to check the most ignorant, not merely from practising as a physician, but even from practising with an appearance of legality, and with a title which ought to imply a certain high amount of acquaintance with his profession. We repeat that this is disgraceful; and it would be scarcely less so if the ease were general throughout Europe: if, that is, a man diplomatized any where could practise any where. But what is the truth? Why, that in this, Britain stands nearly, nay, as far as we know and believe, quite alone; and that in no other country can any man practise medicine, who does not possess the one proper diploma of that country.

We have been reminded of this addition to the evil of our condition by a notice in the *Times* of last Friday, that a Mr. Healy has been forbidden to practise at St. Malo, even among his own countrymen residing there; and that although he appealed against a first decision, a second was given to the same effect, and he has been obliged to abandon his profession. It will be remembered that the same kind of event happened at Calais and Boulogne some time since; and indeed this is but an example of the system universally adopted in France, Germany, and, we believe, every where else: that no man shall practise, even among his own countrymen, who is not diplomatized from the medical government of the land in which he resides. So that in fact there are but two places in which a man dubbed by this "celebrated German university" can practise; namely, first, the little town which is half filled by the university; and, secondly, all England.

We do not find fault with any thing but illiberality in the French rule;

considering how freely French physicians (and very bad ones too, quacks of all grades, among them) are permitted to practise in England, more leniency might be shewn to our own countrymen abroad, especially when there is good reason to hold the truth of the comparison we made last week between our own general practitioners and those of France. The rule itself, we believe, to be sound and good; and that, in every profession, the governing body in each country ought to have a full power of determining who shall practise there. But without some such rule in this country we stand on a disadvantage both at home and abroad, which it is very hard to cope with.

UNIVERSITY OF LONDON.

BACHELOR OF MEDICINE.—SECOND EXAMINATION.—PASS EXAMINATION, 1841.

Monday, November 1.—Morning, 10 to 1.

Physiology and Comparative Anatomy.

Examiner, Dr. Roget.

1. Describe the structure, and specify the functions of the Skin.
2. What are the functions of the Large Intestines; what general differences are observable in those of carnivorous and of herbivorous animals; and what peculiarities of structure exist in those of the Horse, the Hare, the Crocodile, and the Shark?
3. What are the resistances opposed to the motion of the blood in the course of its circulation through the arterial and venous systems? What constitutes the Pulse; and why is there no pulsation in the veins?
4. Give a detailed account of the mode in which images of external objects are formed on the Retina; and point out the uses of the Iris, and of the Pigmentum Nigrum.
5. What constitutes the essential difference between the mode of circulation in the Mollusca, and that in Fishes; and what are the structures peculiar to the circulating system of the Cephalopoda?
6. Give a general account of Vibrating Cilia, of their form, magnitude, and functions, and of the situations in which they are met with in different tribes of Animals.

Afternoon, 3 to 6.

Celsus de Re Medica. (Lib. IV. cap. 25.)

Examiners, Dr. Billing and Dr. Tweedie.

Tuesday, November 2.—Morning, 10 to 1.

Surgery.

Examiners, Mr. Bacot, & Sir S. Hammick.

1. What are the appearances and symptoms, which would make you decide, whether the inflammation attendant on a recent wound, be of the common acute, or erysipelatous kind? Enumerate those wounds caused by external violence, in which Erysipelas is likely to come on.
2. Give the mode of treatment, both local and general, of a recent incised wound, two inches in length, a little to the right side of, and parallel to the umbilicus, opening into the cavity of the abdomen, with a portion of the omentum and small intestines protruding.
3. Describe the different dislocations of the ankle-joint,—how they are detected, the appearances of the limb, and the mode of reduction of each respectively.
4. Enumerate the different methods of amputating a thigh at its middle third: state which you would prefer, with your reasons: give the subsequent treatment, including the mode of dressing, the method of bandaging, the position of the stump, and the management of the ligatures, especially where they are retained beyond the usual time.

Tuesday, November 2.—Afternoon, 3 to 6.

Medicine.

Examiners, Dr. Billing and Dr. Tweedie.

1. Describe the anatomical characters, and the effects of inflammation in mucous membranes.
2. What is the nature of the affection called Laryngismus Stridulus? How is it distinguished from Croup? At what period of life does it occur? Describe a paroxysm, and give an outline of the treatment.
3. Detail the symptoms and physical signs of the first or early stage of tuberculous disease of the lung: describe its anatomical characters: and state the changes which take place in the pulmonary tissue in the progress of phthisis.
4. Describe the lesion in the alimentary canal most frequently observed in continued fever. Mention its pathognomonic symptoms and terminations.
5. To what order in the classification of cutaneous diseases does Eczema belong? Enumerate its varieties. Sketch the characters and treatment of Eczema Rubrum.
6. Describe the anatomical characters of endo-carditis. How is it recognized? What are its more common effects?

Wednesday, November 3.—Morning, 10 to 1.

MIDWIFERY.

Examiner, Dr. Rigby.

1. Enumerate those signs of Pregnancy

which are considered as *certain* indications of this condition.

2. What are the symptoms which indicate the death of the child before and during Labour?

3. Enumerate the symptoms of commencing Labour.

4. What are the indications for applying the forceps?

5. What are the causes of Hæmorrhage before and after Labour?

6. Enumerate the various means for stopping Hæmorrhage from uncontracted uterus after the birth of the child.

7. What are the circumstances disclosed by vaginal examination during Labour where the promontory of the sacrum projects too much?

8. What are the symptoms and causes of Prolapsus Uteri?

Afternoon, 3 to 6.

Forensic Medicine.

Examiners, Prof. Daniel, Dr. Pereira, and Dr. Rigby.

1. In a suspected case of poisoning a witness gives evidence that he has examined the contents of the stomach of the deceased person, and that he has detected small quantities of arsenic, by the tests of sulphuretted hydrogen, sulphate of copper, and nitrate of silver, and that he has applied no other tests, what objections would the counsel for the accused person probably make to such evidence?

2. What are the sources from which the atmosphere might probably become contaminated by sulphuretted hydrogen? How might its existence be determined? and what would be the best method of counteracting its injurious effects?

3. What are the symptoms of poisoning by cantharides? With what diseases might this accident be confounded, and by what circumstances would you distinguish it? How would you proceed to discover whether porter had been impregnated with these insects?

4. In the case of a body found in the water, by what circumstances would you determine whether death had occurred antecedent to, or had been produced by, submersion?

5. What are the symptoms of poisoning by digitalis? What remedial means would you resort to in an accident of this kind?

6. What will be the diagnosis afforded, by vaginal examination, of a patient not pregnant, as to whether she has previously borne children or not; and what will it be in the case of one who is pregnant?

7. What are the signs of recent delivery as elicited by examination during life, and by dissection after death; and on what

grounds would you form your opinion as to the duration of time which has elapsed since delivery?

8. A new-born child is found dead with suspicious marks round its neck, which the mother attributes to the cord having been twisted round the neck, and drawn tight at the moment of birth. State your plan of investigation, and the circumstances which would lead you to decide for or against the mother being guilty of child-murder.

ON THE INFLUENCE OF THE LAST INUN- DATION ON THE HEALTH OF THE POPULATION OF LYONS.

It was a matter of much interest to determine what were the effects on the health of its inhabitants of the inundation, which, in so short a time, on two different occasions, covered a part of the town of Lyons. If mere variations of temperature and atmospheric moisture do exercise on the health only a part of the fatal effects attributed to them, it is certainly, in a case like that of Lyons, that such effects ought to be easily appreciable. In no inundation of that town had the waters ever before risen to such a height: in none was their stay so long, or their retreat so slow. They covered the town and the country round over an area of several leagues: they inundated the quays, the streets, the places of public resort, the cellars, the houses; and they polluted the waters of the wells, the pumps, and springs, with heterogeneous substances that filtered into them from the sewers and the privies. After their retreat a stinking sediment covered the majority of the streets, and a thick viscid mould lined the inner walls of the houses: the atmosphere was charged with a nauseous dampness: the population was distressed: every thing was dreary: and yet the inundation of 1840 had but a just perceptible influence upon the public health. From the month of November in that year to the present time (July 1841), the hospitals have not been more than usually encumbered: the numbers of patients has been but little increased; and, though the mortality has been distinctly greater, yet this cannot be attributed to any disease in particular produced by the inundation.

In the days immediately following this scourge a considerable number of cases of obstinate diarrhœa, and some of dysentery attributed to drinking the unwholesome water, were observed. Some typhoid fevers also appeared; and, if the state of the atmosphere had any influence upon them, it was only by prolonging their continuance, and giving them a more marked adynamic

character. Still they were not more fatal than they usually are, though it was necessary to modify the ordinary treatment: blood-lettings at the outset were less employed, and tonics were sooner and longer administered.

At a later period numerous and obstinate rheumatisms were observed, but they rarely had an acute character, except in those who had worked long in the water: in general the moisture of the atmosphere rather revived old pains than generated new ones. The diseases which reigned most generally were catarrhs and catarrhal fevers, which, however, are habitually prevalent at Lyons at this season: but the inundation remarkably increased their number and modified their character: some affecting the lungs, had an alarming intensity and obstinacy, but on the whole they destroyed but few. An epidemic disease, of which both the etymology and etiology are still obscure, reigned at this time at the garrison, but it could not be, in any measure, traced to the effects of the inundation.

Notwithstanding the absence of any special affection, however, the mortality was more considerable than during the preceding years. Thus, in the last two months of 1840, the town and hospitals together had 1118 deaths; while in the same two months of 1839 there were but 787, and of 1838 only 750. But this difference is easily explained by the pernicious influence such a scourge would have on aged, weak, and diseased people, and especially on such as were already affected with chronic diseases.

The author attributes the good state of health of the town and its environs, during the continuance of the scourge, to the prompt and energetic measures which were taken by the local administration, and to the north wind, which continued for twenty days, and greatly aided the sanitary measures that were being employed.—*Journal de Médecine de Lyons*, Juillet, 1841.

CONNECTION BETWEEN ABUNDANCE OF FOOD & MORTALITY.

BY M. MELIER.

IN this memoir, which was read at the Academy of Medicine of Paris on the 7th of September, the author established, by numerous documents drawn from the histories of various countries, that the number of deaths always corresponds with the price of food. "Wherever there's a loaf added, there's a man born," said an economist: and nothing is more true than this metaphorical expression. If we represent the variations of the general mortality and those of the price of bread at different times, by two curved lines which rise and fall with all the fluctuations of these particulars, we shall

find all their curvatures exactly, and with the most perfect regularity, corresponding. The constant increase of the population of France for a certain number of years is easily explained by the progress of agriculture, the modifications which the laws relating to corn have undergone, and especially by the introduction of potatoes. The influence of the dearness of food, however, is observed more distinctly in the year next following than in that in which it has occurred.—*Gazette Médicale*, Septembre 10, 1841.

M. RACIBORSKI ON THE PHYSIOLOGY OF MENSTRUATION.

OUR readers will remember that in our recent review of Gendrin's *Traité Philosophique*, we drew their attention to this curious, and hitherto ill-understood, subject of physiological inquiry. From the researches of this gentleman, and from those of M. Negrier, as well as of Dr. Robert Lee, it was suggested that there is an actual rupture of one of the ovarian vesicles at each period of menstruation, and that the sanguineous discharge from the uterus was the result of this lesion. M. Raciborski questions the accuracy of this statement. While he admits that the primary movement in each act of menstruation is a congestion of the vessels of the ovaries, he denies that any rupture of their surface necessarily takes place at the same time.

"Having examined," says he, "in a great number of cases, the ovaries of women who had borne children, we feel assured that, as a general rule, the number of the cicatrices on the surface of the ovaries is always proportionate to the frequency of actual impregnation, whether it has been a genuine or only a false conception."

Some of the subsequent statements of M. Raciborski himself seem, however, to be at variance with this assertion, and partially to confirm the idea of frequent, if not of invariable, rupture during menstruation. Having quoted the opinion of M. Negrier, which is expressed in the following words: "An afflux of transparent fluid takes place into the cavity of one of the superficial vesicles of the ovary; this fluid, by its accumulation, depresses the yellow matter, distends and attenuates this last (the vesicle?) at the point which presents the least resistance; the ovarian envelopes are at length raised up, distended, and ruptured, with the vesicle:" our author thus comments upon it.

According to the distinguished professor of Angers, there must take place once a month, in the female constitution, a phenomenon analogous to what we observe to occur in many birds. Women, like hens, must have the power of detaching ova from their ovaries without any previous fecun-

dation. But, before we can admit so startling a proposition, we require to have more conclusive data than those hitherto made public. As to the statement that cicatrices with red edges, or small pouches filled with blood, have been found in the ovaries of women who had menstruated shortly before death, we may observe that on many occasions we have seen similar alterations in the bodies of women in whom the catamenia had been suppressed for several months, as is generally the case, for example, in those who die of phthisis.

M. Raciborski sums up the conclusions to which he has come, after a very elaborate inquiry, in the following propositions:—

1. That menstruation is a consequence of the accomplishment of the development of the ovaries.

2. That it is the direct result of the means employed by nature to place the ends of the Fallopian tubes and the ovaries in the relations necessary to fecundation and the passage of the fecundated ova.

3. That the sanguineous congestion, which is indispensable for obtaining those conditions in the human being, appears sufficient in itself to explain the occurrence of the hæmorrhage which constitutes menstruation—without having recourse to supposing that there is any necessary solution of continuity.

4. That the vertical position, favouring still more the effects of sanguineous congestion on the generative organs, may be one of the principal reasons of the abundance of the menstrual flux in women, and in some species of simiæ.

5. That, for want of having precise information as to the nature and theory of menstruation, it has been hitherto impossible to establish a rational treatment of the various disorders induced by irregularities of this function.

6. That it is not yet sufficiently proved that the ovula arrive successively to maturity at each menstrual epoch, or that the most mature ovum then approaches nearest the surface of the ovarium, there to become ruptured and give exit to a germ.—*L'Experience. (Med.-Chir. Rev. Oct. 1841.)*

ON THE INVENTION OF THE OPERATION FOR STRABISMUS.

At the sitting of the Academy of Medicine of Paris, on the 14th of September, M. Velpeau read the following note, extracted by M. Ribail from the *Précis analytique des travaux de l'Académie de Rouen*, for the year 1743, in which it had been inserted by Lecat:—

“One of the most dangerous poisons that

medicine has to combat, and laws have to punish, is charlatanism. The largest towns as well as the villages are infested by workers of miracles, who impose not only on ignorant men, but on those whose education and intellect ought to guard them against the pardonable errors of the multitude.

“Dr. T—— will serve to prove what I state. I have had occasion to examine his conduct thoroughly, and I have thought the account of it might be both useful to the public and agreeable to the Academy (of Sciences, Belles-lettres, and the Arts, at Rouen). This amiable and talented gentleman arrived at Rouen on the and in a few days became the object of general admiration. He possessed a superb armoury of instruments, which he used with dexterity; and he shewed portfolios filled with the best and most authentic testimonials. The door of his hotel was guarded by soldiers: letters of introduction were necessary in order to obtain an interview with him; and his operations were performed in the midst of a brilliant assemblage of selected persons. The great operation, the most marvellous of all, was that by which he pretended to straighten squinting eyes. And this was his plan:—With a needleful of silk he took up a portion of the conjunctiva of the squinting eye towards the lower part of the globe; and, having made a loop of the silk, he used to pull up the portion of conjunctiva comprised in it, and cut it off with scissars; he then put a plaister over the healthy eye: the one that squinted became straight, and every one cried—a miracle!

“I took the liberty of asking him the motive of an operation which appeared to me perfectly useless, if not dangerous. He answered me that an eye squinted only because the equilibrium of its muscles was destroyed; that to re-establish this equilibrium it only needed to weaken the muscle which prevailed over the others, and that this was what he did by cutting one of the nervous filaments which went to it.”

M. Velpeau asked if this passage might not secure to France the honour of the discovery of the operation for strabismus. The editor of the *Examineur Medical*, from which we extract the notice, says he had heard, and thinks himself, that the T—— mentioned in the notice means a J. Taylor, who published at Paris, in 1738, a treatise entitled “*De vera causâ strabismi*,” and that this Taylor was an Englishman, and oculist to the king of England, who went through France, and nearly all the other countries of Europe, in the quality of chirurgien ambulant. [If Lecat’s account of the operation contain all the truth, we beg M. Velpeau to make France a present of all the credit, both of the inventor, the invention, and all the cures, if any, which fol-

lowed the practice. That the bad eye should become straight when a plaister was put over the good one was no more than it would have done with its conjunctiva entire : it was almost impossible for Taylor to cut the nerve of one of the muscles in the plan he adopted, nor is it likely that he divided even the muscle. Had his operation been successful, which is in the highest degree improbable, it would not have been forgotten, nor, obvious as it was, have wanted imitators. There cannot be much doubt that the effects of the operation were at first to permit the eye to be carried somewhat more easily outwards (when the strabismus was convergent), but subsequently by the contraction of the cicatrix to draw it yet more than ever inwards. In fact, the operation was nearly the same as one which Dieffenbach now performs for slight strabismus, only that he cuts out a piece of the conjunctiva from the side from which the eye squints, so that the contraction might draw it towards that side ; whereas Taylor cut it out from over the too powerful muscle, and so added the contraction of the cicatrix to the causes of the deformity].

FORMULA

FOR OLEUM CANTHARIDIS AND

EMPLASTRUM CANTHARIDIS.

SINCE the reading of Mr. Redwood's paper on Vesicating Applications, we have been favoured with these forms by Mr. Joseph Smith, who states that he has found the preparations efficacious, having made them by way of experiment :—
Oleum Cantharidis.—℞ Pulv. Cantharidis, ℥iv. ; Ol. Olivæ, ℥viii. Macera cum leni calore per dies quatuor-decem subinde agitans, tunc exprime.
Emplastrum Cantharidis.—℞ Ol. Cantharidis, ℥iv. ; Ceræ Flavæ (vel albæ) ℥iiij. ; Resinæ, ℥ss. M. ft. Emplast. s. a.—*Phar. Trans.* Oct.

ROYAL COLLEGE OF SURGEONS..

LIST OF GENTLEMEN ADMITTED MEMBERS

Friday, October 29, 1841.

Samuel Pitman.—William Farrow Lawrence.—Robert Elliot.—Thomas Best.—William Braybrooke. — William Bousfield Page. — William Henry Sloggett.—James Martin.—Joseph Griffith Swayne.—William Dean Wathen.—Richard Thomas Tasker.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED

CERTIFICATES.

Thursday, Oct. 21, 1841.

J. Jones, Mold, North Wales.—J. W. Perrin, London. — A. H. Hassall, Cheshunt, Herts. — A. T. Willmott, Ross, Herefordshire.—J. G. Swayne, Bristol.—D. Morgan, Neath, Glamorgan-shire.—W. G. Gregofy, Sunderland.

UNIVERSITY OF GLASGOW.
DR. HARRY RAINY has been appointed to the Professorship of Medical Jurisprudence. The nomination rests with the Crown. Dr. W. Thomson has been inducted to his Professorship ; the Principal, however, declining to attend. Dr. T. was to commence his Lectures last Tuesday.

TABLE OF MORTALITY FOR THE METROPOLIS.

Shewing the Number of Deaths from all Causes registered in the Week, ending Saturday, the 23rd Oct. 1841.

Small Pox	7
Measles	33
Scarlatina	16
Hooping Cough	42
Croup	4
Thrush	6
Diarrhœa	18
Dysentery	2
Cholera	0
Influenza.....	2
Typhus	27
Erysipelas.....	5
Syphilis	1
Hydrophobia.....	0
Diseases of the Brain, Nerves, and Senses ..	112
Diseases of the Lungs, and other Organs of Respiration.....	235
Diseases of the Heart and Blood-vessels	20
Diseases of the Stomach, Liver, and other Organs of Digestion	70
Diseases of the Kidneys, &c.....	3
Childbed	7
Ovarian Dropsy	0
Disease of Uterus, &c.	2
Rheumatism	3
Diseases of Joints, &c.	1
Ulcer	0
Fistula	0
Diseases of Uncertain Seat	97
Old Age or Natural Decay.....	42
Deaths by Violence, Privation, or Intemperance	19
Causes not specified	1
Deaths from all Causes	775

METEOROLOGICAL JOURNAL.

October.	THERMOMETER.		BAROMETER.	
Wednesday 27	from	43 to 49	29'40	to 29'34
Thursday . 28		43 49	29'58	29'72
Friday . . . 29		41 49	29'74	Stat.
Saturday . 30		42 49	29'68	29'65
Sunday . . 31		46 52	29'74	29'79
November.				
Monday . . 1		43 49	29'80	29'97
Tuesday . . 2		42 51	30'07	30'15
Wind, N. and N.W.				
On the 27th, a general overcast, raining generally all the afternoon and evening, and at times heavily. The 28th, overcast, with frequent and heavy showers. The 29th, morning clear, afternoon overcast, with rain, evening cloudy. The 30th, overcast, raining nearly all the day. The 31st ult., cloudy, raining frequently and heavily during the day. The 1st inst., raining from a general cloud nearly all the day. The 2nd, morning overcast, afternoon clear, evening cloudy.				
Rain fallen, one inch, and thirty-eight hundredths of an inch, of which eighty-five hundredths fell during the 27th ult. and following morning.				
CHARLES HENRY ADAMS.				
WILSON & OGILVY, 57, Skinner Street, London.				

THE LONDON MEDICAL GAZETTE,

BEING A
WEEKLY JOURNAL

OF
Medicine and the Collateral Sciences.

FRIDAY, NOVEMBER 12, 1841.

LECTURES
ON THE
PRINCIPLES AND PRACTICE OF
PHYSIC,

Delivered at King's College, London,

BY DR. WATSON.

Pleurisy continued. Recapitulation of symptoms; of diagnostic signs. Causes of pleurisy. Pneumothorax; its conditions, and signs. Treatment of pleurisy. Empyema. Paracentesis Thoracis.

IN the last lecture I enumerated the symptoms, general and physical, which are met with, more of them or fewer, in cases of acute pleurisy. I then considered them singly; it may be well to take a rapid recapitulatory view of them as they exist together or in succession, and compose the actual disease.

The outset, then, of pleurisy is marked by sharp stabbing pain, most commonly situated beneath one of the breasts, and preceded or accompanied by rigors. These two signs, the stitch and the shivering, are sufficient of themselves to awaken a strong suspicion that pleuritis has set in. At the same time there are usually a dry cough; a dread of breathing; a check or catch in the inspiration, which is curbed, so to speak, by the pain; fever; often a comparatively feeble respiratory murmur on that side on which the pain is felt; and the patient cannot lie on that side. If no liquid effusion takes place, these symptoms ordinarily disappear at the end of a few days, and the patient recovers. The case has been a case of dry pleurisy; and the chances are much in favour of the lung having become permanently adherent to the ribs.

I should have said, with respect to the fever, that at the outset of the pleurisy it is often high. And it was matter of observation long before the method of auscultation

was thought of, as well as since, that in the acute period of the disease the *pulse* is remarkable for its hardness, and forms a contrast with the soft pulse of pneumonia, and with the small and contracted pulse of inflammation of the serous membranes of the abdomen. Indeed the older physicians laid great stress upon the quality of the pulse, in their endeavours to distinguish pleurisy from pneumonia.

But to resume the description of the symptoms of pleuritis. Where effusion takes place (and it does so very early, so as to form a part of the complaint, just in the same sense in which expectoration forms a part of catarrh), the sound elicited by percussion becomes dull on the side on which the effusion exists. While the effusion is moderate, the dulness shifts its place according to the posture of the patient, and is heard only when the lowermost part of the chest is struck. But the fluid may soon increase so much as completely to fill the pleura; and then the whole of that side is dull. Meanwhile the murmur of respiration becomes feeble and faint, and at length, as the effusion augments, ceases altogether; while on the sound side it grows noisy and puerile. Tubular breathing, and that modification of the bronchial voice which medical men have agreed to call *ægophony*, become audible during the early periods of the effusion. *Ægophony* is heard, however, only so long as the quantity of liquid poured out observes a certain limit. There must be a certain amount of effusion—and there must not be more than a certain amount. I have sometimes thought that the peculiar sound depended on the undulations produced in the *surface* of the liquid, by the bronchial vibrations. It is certainly somehow connected with the presence of a stratum of liquid between the lung and the ear. When the lung is strongly compressed, and especially when the cavity is stretched and distended by the enclosed fluid, the side is necessarily motionless; no tubular or other breathing can any

longer be heard, or even occur: nor is the voice conducted, except perhaps very faintly, to the listening ear of the physician.

When the effusion is great, that side of the thorax on which it has taken place becomes, often, more or less dilated; and I should add that the integuments on the same side are frequently œdematous. The patient now cannot lie on the sound side: and the most common posture is that which is intermediate between the supine position and the lateral; he lies *towards*, but not, in general, *on*, the affected side.

I observed, in the last lecture, that this inability, after the effusion has reached a certain point, to lie on the sound side might be accounted for in two ways. Partly it may be owing to the impediment which lying on the sound side offers to that side's expansion. The muscles that dilate the healthy side have then to lift, as it were, the weight of the body, and are, some of them, pressed upon and encumbered in their action by that posture. But the inability in question is chiefly attributable to another circumstance, viz. the pressure exercised by the effused fluid downwards, through the mediastinum, upon the only lung that is left to perform the function of breathing. Now disputes, or differences of opinion, have arisen as to which of these two circumstances is the most efficient cause in this matter: and therefore it may not be amiss to provide you with the facts which prove that the last-mentioned cause is, in reality, the most operative—I mean the weight of the superincumbent liquid, in the supposed position, upon the mediastinum, and upon the healthy lung below it. This is shown by the fact that patients, to whom the decubitus on the sound side had previously been impossible, on account of dyspnœa, have been able to rest in that position *immediately after* the artificial evacuation of the fluid. Now in such a case the obstruction to the dilatation of the healthy side, produced by placing it under the weight of the body, would remain the same as before, or nearly so. A hospital patient of mine, named Coggs, could not breathe if he attempted to lie on his right side. His left pleura was distended by liquid effusion. I thought fit to have paracentesis performed: and the poor man was greatly delighted to find himself at once enabled by it to assume the posture which his weariness had long made him wish for, but which he had not been capable of enduring. We found, by percussion, that the diseased side was now filled with *air*; the compressed lung had not risen at all; so that the necessity for the free expansion of the sound side was just as great as before the operation. You may find a precisely similar consequence of the same operation related in the fifth volume of the *Dublin Transactions*.

The œdema that is sometimes observed on the diseased side is more or less connected, probably, with the habitual position of the patient.

There is yet another sign of pleuritic effusion, which, as it is very simple, and readily perceived by even the least instructed observer, is too valuable to be neglected. In most persons, one's open hand, laid flat upon the surface of the chest, feels the vibration or thrill which the voice occasions when the person speaks. Now in a case of pleurisy with effusion, you will generally find a remarkable contrast between the two sides in this respect: *i. e.* the thrill is strong and evident on the sound side, and not perceptible at all on the other. Whereas, when the whole side is dull in consequence of solidity of the lung, the thrill is much *augmented* on that side. But this thrill is not always present in the healthy state, and then we can infer nothing from its absence on the diseased side.

After a while, when the fever has ceased, the liquid begins to be reabsorbed: but as, in many cases, the lung is more or less bound down by adhesions, or overlaid by a membranous stratum of lymph, it cannot expand in proportion as the liquid is removed; and the necessary consequence is *that* shrinking of the affected side in all its dimensions which I fully described yesterday.

Let me now briefly restate the points of distinction between pleuritic effusion and pneumonic consolidation, when the one or the other of these two morbid conditions is proved to exist by dulness on percussion, extending over the whole of one side of the chest. The question is one which frequently arises; and it is one of much interest and importance.

First, then, we distinguish these different conditions, having some physical signs in common, by their *history*. In pleurisy, sharp pain, and a dry cough, or perhaps no cough, precede the dulness: and there is not the crepitation, nor the rust-coloured sputa, which are antecedent to the dulness of pneumonia.

We cannot, however, always learn the previous history of a given case.

Secondly, a lung rendered solid by inflammation does not *distend* the cavity. Copious pleuritic effusion most frequently does. In the first case, therefore, we have not that separation of the ribs, that obliteration of the intercostal depressions, that protrusion of the corresponding hypochondrium, that mensurable enlargement of the side, that extension of the dull sound beyond the middle of the sternum, or that displacement of the heart, which are, some or all of them, apt to result from a collection of liquid in the pleura.

Thirdly, the solid lung transmits the voice from the pervious bronchi to the surface of the thorax; and if any motion of the affected side remains, it transmits also the sound made by the passage of the air through them. These phenomena are wanting when the pleura is so stretched by its liquid contents as to make the side every where dull to percussion.

Fourthly, the vibration of the thoracic parietes, caused by the patient's voice, is augmented by consolidation of the lung; prevented when it is strongly compressed by imprisoned liquid. The increase or the diminution of this thrill can be felt therefore in the one case, and not in the other.

This simple test fails to be applicable when, from the feebleness, or the pitch, of the person's voice, no thrill is perceptible on either side in the healthy state.

Fifthly, a patient having one lung solid, is generally indifferent as to posture. A patient having one pleura quite full of liquid, lies (usually) on or towards that side; and is distressed and suffers dyspnœa if he attempts to lie on the other.

Causes.—It is of more importance that we should inquire into the *exciting causes* of pleurisy than into those which give rise to pneumonia. They are more numerous and complicated, and have a more direct bearing upon the prognosis and treatment in the one case than in the other. I do not desire to refine too much; and therefore I shall restrict myself to those causes which are obvious, and which you are likely to meet with in practice.

I merely say of exposure to cold, as an exciting cause of pleurisy, that it is a very common—the *most common*—cause. You know already all that I can tell you of the circumstances that are likely to render that cause effectual in producing internal inflammations, and, among the rest, pleuritic inflammation.

But pleurisy is often occasioned by mechanical violence; or by the accidental extension of disease from other parts; and the course, and the event, of the disease, are liable to be considerably modified by the nature of its cause in such cases.

Pleurisy may be excited by the splintered ends of a fractured rib; and if the pulmonary pleura be wounded in that manner, air may get into the pleural cavity, as well as into the cellular tissue beneath the skin; constituting the true and genuine *emphysema* of our forefathers. Pleurisy may be determined also by a penetrating wound of the thorax; or by a penetrating ulcer of the pulmonary pleura, the extension of a tubercular excavation. In the one case air will enter from without, if the aperture be sufficiently large; in the other, air will pass from

the lung into the cavity of the pleura. In all of these cases of air finding its way into this serous sac while in a state of inflammation, the event of that inflammation is much more likely to be the effusion of *pūs*, than when no communication exists between the inflamed membrane and the atmosphere. This I have mentioned, and offered some explanation of, before. But another very curious consequence results from the admission of the air, and its coexistence with puriform or other liquids in the sac of the pleura. New auscultatory signs arise, very easily appreciated, very instructive, and therefore very necessary for you to be acquainted with.

You must know that when the pleura contains air alone, the patient is said to have *pneumothorax*; and when (what is infinitely more common) the air is there in company with liquid, he is said to have *pneumothorax with effusion*. This is the name given to that condition of the chest by Laennec, and it serves its purpose sufficiently well. I shall take leave to employ the simple term *pneumothorax*, in speaking of either condition; whether there be liquid also in the pleural cavity or not. *Pneumothorax*, then, often proceeds from one or other of those causes of pleurisy just mentioned. It is sometimes produced too by the operation of paracentesis thoracis; by the opening made into the thorax by the trocar of the surgeon, in order to let out its fluid contents; in plain English, by *tapping* the chest.

The modifications of sound that result are particularly curious. Of course the air occupies the higher portion of the cavity and the liquid the lower, in whatever position the patient may be placed. And this being the case, *percussion* will give a remarkably hollow sound when made upon the uppermost part, and a totally dull and flat sound when made upon the lowermost part: and the change from the hollow to the dull sound will often take place quite abruptly, so that you may trace out the exact level at which the surface of the effused liquid stands. And if you reverse the posture of the patient, the resonant and the dull sounds will interchange their respective places: the uppermost part always yielding the clear, and the undermost the flat sound. This is just what you would expect. The result of the experiment is the same whether you make it upon the human thorax, or upon a beer-barrel. The resonant part, you are to observe, will be much *more* resonant than it would be in health—more resonant (you have always the other lung to test it by) than the corresponding portion of the opposite side of the chest—tympanitic, drum-like: for the air is not involved in spongy lung, but contained in a free space; and the sound is not damped, as in a healthy chest it is damped somewhat, by the *presence*

of the lung. Moreover no respiratory murmur can be heard where this tympanitic resonance occurs: nor can any thrill be felt. Now I say all this is no more than you must have foreseen. But the sounds detected in this new condition of things by the ear applied to the chest, as the patient *breathes*, or *speaks*, or *coughs*, you would *not*, I think, have anticipated. You hear then a sound which I must endeavour to describe in words, but which you will scarcely form a right conception of till you have heard it, and then all farther verbal description will be needless. I can describe it by similitudes only. The patient's breathing is like the noise produced by blowing obliquely into an empty flask; and so the French have given the sound the somewhat magnificent title of "amphoric resonance." I have heard, fifty times over, exactly the sound in question when I have been out shooting in a rough day, and the wind has blown sideways into the gun barrel. It is a ringing metallic sound. When this is present during the *breathing*, the *voice* also has, even *more strongly* in general, this metallic character; and so has the cough; and each of them is apt to be succeeded by a tinkling echo. The voice, and cough, resemble those of a person who speaks or coughs into a deep well; or with his head bent over an empty copper boiler. The same ringing quality is often heard when one speaks in a large vaulted room; or beneath the arch of a stone bridge. You may perhaps now have some idea what these metallic sounds are. They are very singular: and they are perfectly decisive (as far as my experience has gone) of the presence of air in a considerable cavity, within the thorax; which cavity mostly contains liquid also: and of the presence of air and liquid in the cavity of the *pleura* in particular. I do not know that the liquid is essential: I do not believe it is; but commonly there is some liquid, and a good deal of air. Almost always too—but *that* is not indispensable—the cavity communicates with the external air, either through the walls of the chest, or through the bronchi. Neither is it necessary that the cavity should be in the pleura, for it may be in the lung: and when we come to speak of phthisis I shall point out the circumstances which will enable you to determine whether the sounds proceed from a tubercular cavity, or from the sac of the pleura. What you will please to remember is, that in actual practice, in ninety-nine cases out of a hundred, these sounds will be found to denote the presence of both air and liquid in the cavity of the pleura; and the probable existence of some passage of communication between that cavity and the *external* air: in a single word, they will reveal the existence of pneumothorax. The voice reverberates in the little

cavern just as it does in a large empty room with a stone roof; and this is the best explanation I can give you of the phenomenon. Sometimes, as you are listening, especially if the patient has recently changed his posture, you will hear a sound just like that occasioned by dropping a pin's head into a glass vase, or into a metal basin; and to this sound the name of *metallic tinkling* has been given. It really often closely resembles the distant tinkle of a sheep-bell. This is supposed to result from the dropping of the liquid from the upper part of the cavity; or sometimes from the bursting of a bubble on the surface of the liquid during respiration. You may succeed now and then in hearing a species of the same metallic tinkling by applying the stethoscope over the stomach, when percussion has already taught you that it is distended with gas, and by getting the patient to swallow some drink in successive tea-spoonfuls.

Another auscultatory sound, arising out of the same condition, viz. the presence of both air and liquid in the cavity of the pleura, and known even as early as the time of Hippocrates, is rendered audible by *succussion* of the patient's body. You lay your ear upon his side, and get him to give his body a sudden jerk or jog; or you get some one else to take him by the shoulders and shake him; and you hear the liquid splashing within: just as you hear it when you shake a cask that is neither full nor empty of water. This is an unequivocal indication of pneumothorax; and demonstrates beyond a doubt that there is both air and liquid in the pleural sac; for no sound would arise if there was liquid only. A moderate quantity of liquid will make a greater squash than a large quantity. Unequivocal I say it is, because one could scarcely be misled by the splashing which may sometimes arise from wind and water mingling in the *stomach*. I wish that a patient, who was under my observation for some months last year in the Middlesex Hospital, and could produce this splashing noise at will, were there now; for he was not a little proud of his fatal gift, and I should have brought him down here to-day, and given you an opportunity of hearing this sound for yourselves, worth a dozen descriptions of it.

It is surprising how long this state of things within the thorax may last, without any great declension of the patient's general health and strength, even when the disease is (as it mostly is) incurable. Two men, patients of mine, both of whom had well marked pneumothorax in connexion with tubercular phthisis, remained in the hospital for several months; till, in fact, I could conscientiously keep them there no longer: and each of them went away in very tolerable plight. I was unable to trace them afterwards, for

they returned to their homes, the one in Ireland, the other in the north of Scotland.

You see then that the conditions of pleurisy, and the symptoms of those conditions, may be modified by its causes. All those causes that imply the introduction of air into the cavity of the pleura, imply also a more serious state of disease than results from most other causes. The perforation of the pleura, by the extension of a vomica, I have mentioned as one of those causes. But tubercles in the lungs are frequently, very frequently, the cause of pleurisy, when no such perforation has taken place. A tubercle, or a group of tubercles, approaches the surface of the lung, but does not break through. Generally the pleurisy so produced is slight and partial, and ends in the formation of adhesions: it is *dry* pleurisy. And this very common occurrence of adhesions between the costal and pulmonary pleuræ, in the course of tubercular disease of the lungs, is, in truth, one reason why *perforation* of the pleura, and pneumothorax from that cause, is comparatively so rare. The part where the perforation is likely to take place has generally, though not always, been secured and clouted, as it were, by previous adhesion. So that even here we find that inflammation has a conservative tendency, and helps to postpone the fatal termination of the specific disease.

Pleurisy may terminate in resolution and complete recovery; or in adhesion, which is its next best termination, and which obtains for the patient, at the expense of some trifling embarrassment of his breathing, complete security for the future against the dangers of pleuritic effusion. Again, acute pleurisy may end in chronic disease of the pleural cavity: *i. e.* in a shrinking inwards of the walls of the chest, attended with total uselessness, or a very imperfect and limited use, of the corresponding lung. Lastly, pleurisy may terminate in death. It may cause effusion so copious, that the patient will die, unless the fluid be removed by art, of actual suffocation. On the other hand, he may die worn out and exhausted by the disease, especially if it be attended with suppuration. In that case he will suffer hectic fever, and all its wasting and melancholy accompaniments; and death ultimately by asthenia. It is seldom that simple idiopathic pleurisy proves fatal.

As the matter from a tubercular cavity may break *in* upon the pleura, and lead to the admission of air, and the establishment of pneumothorax; so the puriform fluid which has resulted from inflammation of the pleura, and was for sometime imprisoned in its sac, may also break *out*, and the result will still be the admission of air, and pneumothorax. This is not a very frequent result of pleurisy, however. When it occurs, an

abscess forms externally, generally in front of the chest; and either the abscess bursts, or it is opened by the surgeon, and then it is found to communicate with the cavity of the pleura.

Sometimes air is effused into the sac of the pleura in consequence of the rupture of dilated air-cells on the surface of the lung: sometimes gas is generated there from the decomposition of effused liquids; and in such cases the gas has a strong odour, like that of sulphuretted hydrogen: sometimes, again, gas appears to be secreted from the membrane itself. All these events are, however, uncommon. When air, from whatever cause, is shut up in the cavity of the pleura, and goes on accumulating there, it will compress the lung, just as certainly and effectually as if there was a liquid extravasated. And such compression, if suddenly brought about, may cause speedy death by apnoea: and this is more apt to occur from a puncture of the pulmonary pleura by the extremity of a fractured rib, than from any other cause.

As to the *treatment* of pleurisy, you will have anticipated that in the outset of the disease we must have recourse to the lancet. I have stated more than once that blood-letting *tells* more, and is better borne, in inflammation of serous membranes, than in any other case. If you see the patient while the stitch in the side, and the restrained and cautious respiration are present, you will bleed him, in the upright posture, from a large orifice, until the pain is relieved, and he can draw a full breath again with ease and satisfaction; or until he is about to faint. And if the pain and catch in the breathing should return, and the pulse continue firm and hard, you will bleed again in the same way; or cover the painful side with leeches; or abstract blood by the cupping-glass and scarificator. It is best to bleed fearlessly at first, and in proportion as you do so the chance will be diminished of a repetition of the blood-letting being needed. The blood, in pleuritis, is always deeply buffed and cupped.

Tartar emetic, which is so useful when the mucous membrane of the air-passages is inflamed, is *not* adapted to inflammation of the pleura. On the other hand, mercury, from its well-known power to check the effusion of coagulable lymph, is *especially* indicated. Of course it is to be given with a view to its specific effect on the system: *i. e.* in equal doses repeated at frequent and equal intervals, and guarded by a small quantity of opium. And in very severe cases, or when the internal employment of mercury is in any way contraindicated, recourse must be had to inunction of the linimentum hydrargyri, or of the strong mercurial ointment.

By the early and vigorous adoption of these measures, the inflammation may generally be subdued in no long time. If, though the fever diminish, there still be pain in any part of the chest, leeches may be again applied, or the part may be covered with a blister. I do not think a blister does any good,—on the contrary, it is likely, by the additional irritation it causes, to do harm—while the inflammation is yet recent and active.

But though pain may have ceased, and no fever remains, and the patient is not conscious of much dyspnoea, there may be, and there often *will* be evidence, not to be mistaken, of effusion into the cavity of the pleura. Dulness, I mean, on percussion, bronchial respiration, ægophony; and the object of our treatment is now to get rid of the fluid. We seek to do so by keeping the patient on low diet. The more (says Broussais, with some quaintness), the more the patient eats, the sooner he will die. We pursue the same object by keeping his gums tender with mercury; by applying blisters one after another to the affected side; and by purgatives, and diuretics. By keeping the vessels empty we facilitate, as much as in us lies, the absorption of the liquid contents of the pleura. A very good form of diuretic for this state of matters is a combination of squills, digitalis, and mercury. Half a grain of digitalis, one grain of squills, and three or five grains of blue pill, repeated and continued according to the state of the mouth.

Under this kind of treatment the effused fluid will often be completely removed; and the chest restored to its former state. I last week dismissed a lad from the hospital in whom all this took place.

But in other cases, though the fever and the inflammation are at an end, and absorption of the liquid takes place, the parts within the thorax do *not* revert to their original condition. This we know by that shrinking of its dimensions on the side affected, which was described in the last lecture. This shrinking and narrowing is the *necessary consequence* of the absorption of the liquid, *unless* the compressed lung dilates again in proportion as the fluid is taken up. In most cases of this kind the lung *cannot* rise; being bound down by thick and firm false membranes: and then the deformity is irremediable, and lasts for life. If the lung is completely emptied of air, and enveloped by strong bands of lymph, so that it is permanently unable to admit air again—in that case, as the bony framework of the thorax can yield to a certain extent only, there will always remain I presume some liquid in the pleural cavity. If, again, the lung recovers a part of its lost volume, and *meets* the contracting parietes of the chest, adhesion may take

place; and the cavity of the pleura be obliterated by thick layers of false membrane. And other changes are apt to arise in the lymph which is adherent to the pleura in these cases of imperfect repair. Sometimes tubercles form in it. Sometimes ossific matter is deposited. I shew you a fine specimen of this kind of ossification of the pleura. There is yet another supposeable case: the investing adventitious membrane may be thin and weak, and yielding; and though the lung may not expand to its full dimensions at first, it may gradually force its way against the binding power of the coagulable lymph, and then the external configuration of the chest may be restored, and the symmetry between the two sides return. That this sometimes takes place I cannot doubt; but I have only once met with a case in which the dwindling of the side was *entirely* recovered from. In May 1834, I was asked to see a child four years old, who had had cough, and wasted to mere skin and bone, after scarlet fever. I found the whole of the right side of the chest perfectly dull on percussion, and no respiration could be heard on that side. He was taken by his parents into the country, and I did not see him again for some weeks. He then had ceased to cough, and, in a great measure, had regained his strength; but he presented, on the side which had been dull, the most marked and complete example I ever saw of the sinking in of the ribs, flattening and shrinking of the chest, and depression of the shoulder, which denote by-gone pleurisy and diminished size of the lung. About a year from the occurrence of the original disease his father brought him to my house, that I might see the change which had again taken place. The boy was plump and rosy, and in perfect health; the right side of the chest was as full and round as the other; the symmetry of the two sides was completely restored; the breathing natural and perfect; and the sound on percussion hollow. His father, to whom the former shrunk state of the side had been pointed out, told me that he had watched, with deep interest, the process of recovery, and that it had been very *gradual*. Whether after once having subsided, the ribs ever quite return to their natural position in the adult subject, I do not know. I have never seen that happen.

There are yet other cases in which the effusion continues and increases, and the side, instead of shrinking, enlarges; the functions of the lung on that side are entirely abolished; nay, the use of the remaining lung is greatly interfered with, by the pushing over of the mediastinum; and the patient is in imminent danger of suffocation. In such cases, whether the effusion has taken place rapidly or slowly—whether the disease

has been acute or chronic pleurisy—we must relieve the oppressed lung by *letting the fluid out*—by tapping the thorax; and the sooner that is done, when such a state of things exists, the better.

The operation is not difficult, or formidable; but a mistake in the diagnosis may be *very* formidable. I have heard of two instances, one in Scotland, and one in this town, in which the operation of paracentesis thoracis was determined on to relieve the oppression caused by empyema: but the opening was made on the wrong side; and the patient in three minutes was, in each case, a corpse. There was effusion, which had already put a stop to the play of one lung; and upon air being admitted to the surface of the other, it collapsed also, and immediate suffocation took place. I do not mention these mishaps to deter you from performing the operation. They both took place some years ago. Such a mistake would be unpardonable now. But I mention them to shew the necessity of our being sure of our ground before we proceed to open the thorax of a living person. A surgeon told me very recently that with the sanction, and at the suggestion, of a physician, who understands auscultation exceedingly well I believe, he passed a trocar into the chest of a patient; but no fluid followed, to the no small mortification of the physician. This proved to be a case of malignant disease of the lung; and fluid was let out afterwards by puncturing the thorax in another place, and much relief afforded; although of course the disease proved ultimately fatal. The surgeon informed me that he had suspected the true nature of the case, from observing a livid protrusion in front; which was, in fact, the specific disease making its way through.

You will take care, then, to survey the chest narrowly before you plunge a trocar into it. If you see by your eye, and ascertain by measurement, that one side is larger than the other; if the intercostal depressions be effaced on that side; if the whole surface affords a dull sound when percussed; if the side does not move at all, or scarcely moves during respiration; if no vibration can be felt on that side when the patient speaks; if no breathing can be heard in the corresponding lung; if the heart be found beating in an unnatural place, down towards the left hypochondrium, or in the other direction on the right of the sternum; and if, at the same time, the other side of the chest moves freely, sounds resonantly, communicates a thrill to the hand while the patient converses, and is full of *puerile* respiration; then you may be sure that the larger side is distended with fluid.

But it does not follow that you should,

therefore, open that side. The propriety of doing so will depend upon circumstances.

In my judgment, that operation ought never to be performed unless the life of the patient is, or seems to be, in jeopardy, from the continued presence of the liquid within the thorax.

Now life is plainly in jeopardy when the vital functions of the lungs, or of the heart, are greatly hindered; when symptoms present themselves of approaching death by apnoea, or by syncope. If we discover no cause for those symptoms, except the increasing pressure of liquid pent up in the pleura, we are warranted in ascribing them to such pressure, and bound to act upon that persuasion. Whenever, with the physical signs of abundant effusion, we have great labour and distress of breathing, an anxious and livid aspect, a tendency to delirium—or extreme faintness, and a vanishing pulse—there is no time to be lost: it is our duty to propose and to urge the mechanical removal of the pressure which must else be fatal.

Again, when the patient, without suffering much dyspnoea while he lies quiet, is yet evidently losing ground from day to day, and early death by asthenia appears, without the operation, to be inevitable; and when all other means for getting rid of the imprisoned liquid have failed; and when no other condition of disease, or of advanced age, exists to account for the progressive sinking; then also, in my opinion, the patient should not be denied the *chance* which the operation may afford.

Thirdly, whenever (no matter how we ascertain the fact) the effused liquid consists of *pus*, it should be let out.

In either of these three predicaments, and in no other, should we be justified (as I think) in making an opening into the living thorax.

But I wish to be understood as giving you simply the impression which my own experience has made upon my own mind. I know that some practitioners recommend the early employment of the trocar; while (they say) the false membranes, which are apt to prevent the collapsed lung from expanding again, are yet tender and unorganized. But surely we should risk much, and gain nothing, by admitting air into the pleura while the inflammation is still in progress. Most cases of mere pleurisy with effusion do well. The mortality from uncomplicated pleurisy is exceedingly small. It would, I fear, be vastly augmented if every patient having manifest effusion were to be tapped. The danger of the operation is this;—that it may, and probably will, induce suppuration, or cause the effused liquid to become putrid. Generally the effu-

sion consists of serous fluid, which is at length spontaneously reabsorbed: the lung expands again, or the walls of the chest shrink inwards: and the ultimate state of such a patient is as good as it probably would be after a successful tapping.

To make assurance doubly sure, it is always right, before proceeding to the operation of paracentesis, to adopt the expedient first suggested and adopted I believe by Dr. Thomas Davies, of trying the chest by means of a grooved needle; making a tentative exploration of the nature of its contents in that manner. The passage of this little instrument—like the dismissal of a pilot balloon—affords information which is useful in guiding the particulars of the subsequent operation. It not only ascertains that there really is liquid within the pleura, but it discovers the kind and quality, and exact place, of the liquid. If it be serous, it will flow readily along the groove, and trickle down the patient's side. If it be puriform and thick, it will not exude so freely, but a drop or two will probably be visible at the external orifice; and when the needle is withdrawn, its groove will be found to contain pus. In the former case it is possible that there may be no false membranes; in the latter they are likely to be thick. You would use a larger trocar to evacuate the thicker fluid.

The puncture thus made is quite harmless; and inflicts very trifling pain. Dr. Davies gives this useful piece of advice in respect to the trocar, that its point should be *sharp*: for otherwise, after the serous membrane has been penetrated, if there happen to be thick tough layers of coagulable lymph, not very closely attached to the costal pleura, they may be driven before the instrument, and so the liquid will not be reached, but the operator will be perplexed and baffled.

Connected with the operation itself there are some questions concerning which medical opinions and medical practice are not yet settled. I do not pretend to decide these questions: yet I cannot pass them by. I must point them out to you; and I shall, at the same time, state what my own observation has suggested in regard to them.

1. Should all the liquid be let out at once?

Some say yes: some say no. If we appeal to experience on this point, we obtain no satisfactory answer. I have known patients get rapidly and perfectly well, after as complete an evacuation of the liquid as was possible. On the other hand, I have heard of speedy recovery when, by a sort of accident, very little had been withdrawn: enough to relieve the pressing distress; but much less than the operator intended.

We must try the matter, therefore, by our reason.

I think it very probable that when the

serous membrane is *stretched* by the pressure of its contents, its natural absorbing power may be lessened. But we have no reason to suppose that the mere relief of this tension will *often* suffice to renew the process of absorption, and to enable the flattened lung to re-expand.

The theoretic objection to the thorough emptying of the thorax in such cases is (I conceive), that the introduction of air is likely to be hurtful, by converting the adhesive into the suppurative form of inflammation, and by promoting decomposition of the extravasated fluids. No doubt there is this risk; but, in general, it cannot be avoided. Unless the lung freely rises at once, the liquid *cannot* all, nor even much of it, come out, without air getting in. Some attempts have indeed been made, of late, to draw the water into an exhausted bag, by the help of a pipe and stop-cocks. But it is obvious that, in most cases, very little can be so abstracted. The mere admission of air to the pleura does not necessarily *create* inflammation of the membrane. This we know from what happens sometimes in emphysema produced by a fractured rib. In the only instance of *pure* pneumothorax which I ever saw, the sac of the pleura had become half filled with air, through a very minute opening in the pulmonary membrane, communicating with the air-passages. There was *no* inflammation of the pleura in that case. Except that it was preternaturally *dry*, it seemed perfectly healthy. Neither does the access of air necessarily superinduce suppuration in the membrane already inflamed. Certainly, if pus follows the passage of the instrument, as much should be removed as we can get. And, for my own part, I should take away as much as would come, if the enclosed liquid proved to be serous.

2dly. Is the orifice to be healed up, or to be kept open?

Here, also, practical men differ. I should say, if pus comes out, by all means keep the aperture open; and inasmuch as detension of the pus would be injurious, and the depending point is difficult to hit, and the orifice is apt to clog, I would do more than leave it open: I would draw the puriform fluid off twice a day by a syphon.

If serum is let out, by all means close and heal the wound. Then, if all goes on well, our object is achieved. But should the condition of the patient fail to improve; should hectic fever, after a day or two, set in or even continue; should much constitutional distress or disturbance arise;—under such circumstances I would reopen the wound. There *was* mere serum, or liquor sanguinis: there now *is*, in all probability, puriform matter pent up in the pleura; and even stinking and poisonous gases.

On six occasions I have myself witnessed the evacuation, by puncture, from the human pleura, of a clear transparent liquid. Some of the patients were under my own charge, some under the charge of others. Of these six patients one died the day after the operation; I can scarcely say why. She was an extremely timid and susceptible young woman, and I am inclined to attribute her death to the shock produced, by apprehension of the operation, upon her sensitive nervous system. Two others recovered forthwith and perfectly. The wound presently healed in the three remaining cases also; but in one of the three it soon broke out again, and a quantity of healthy pus was discharged daily. After some time, the expedient of keeping the cavity free from accumulated pus by the use of a syphon was resorted to. Under this plan the discharge became gradually less and less, and at the end of many months it finally ceased. The patient has a contracted chest, but his general health is quite re-established. He was on the brink of suffocation when the operation was performed. I have been told of a man who, for the last fifteen years, has had a similar thoracic fistula, and who has nevertheless, during nearly the whole of that period, been actively engaged in the various labours of a farm servant.

I have still two of the six patients to account for. They were both much relieved by the operation for a while; but after a few days they again fell off, and after many more days of gradual sinking and distress, they died. The cavity of the pleura contained, in both cases, much puriform liquid, and a quantity of most offensive gas, consisting in great part, as I judged from its odour, of sulphuretted hydrogen. I have since thought that both these patients would have had a much better chance for life, if this mass of corruption had been duly removed.

Again, I have twice seen *pus* let out, by the *primary* puncture of the chest. One of these two patients sunk, exhausted, some months after the opening, which never healed, was made. The empyema of the other had been occasioned by fracture of a rib. The discharge continued for a short time, then ceased, the orifice closed, and the lad got well.

This constitutes the amount, or nearly so, of my personal experience of the operation of paracentesis thoracis. You will see, in the statement I have been making, the grounds of those opinions which I have formed and expressed respecting it. A full and final solution of the grave and difficult questions that it involves would require a much wider field of observation than any one individual is likely to command. Dr.

Thomas Davies has published a tabular account of the several cases of operation which he had then superintended. In sixteen cases of empyema, so treated, there were twelve recoveries; that is, the operation was successful in three-fourths of the whole number of cases: a very encouraging result. In three of the less fortunate cases, the lung could not expand after the evacuation of the fluid, in consequence of the thickness of the false membranes covering it.

The value of Dr. Davies' table would have been greater, if it had shewn in each case the time, after the commencement of the disease, at which the operation was performed; the symptoms that called for its performance; the nature of the liquid evacuated; and whether the orifice made by the trocar was closed or not.

The quantity of liquid which the distended pleura is capable of holding is enormous. I have seen upwards of a gallon let out at once. Dr. Montgomery mentions the case of a patient of Dr. Croker's, in Dublin, from whose left pleura Mr. Crampton drew off the almost incredible quantity of fourteen imperial pints of pus. Of course this could not have accumulated there without making injurious pressure in all directions: upon the ribs, upon the heart and mediastinum, upon the diaphragm, and the abdominal viscera beneath it. It is interesting to know with what rapidity the capacity of the diseased side of the thorax will, in favourable cases, diminish. The same writer gives the history of a boy, 12 years old, in whom the circumference of the diseased side was sixteen inches and six lines, while that of the sound side was fourteen inches and one line. Nine days after the operation the circumference of the diseased side had decreased nearly three inches: it measured thirteen inches and nine lines; that is, rather less than the circumference of the healthy side. The side had shrunk somewhat within its natural size. This is common in such cases.

There is yet a third question of some importance. Whereabouts should the opening be made?

If any soft inelastic tumor has appeared, marking a tendency in the effused liquid to make its own way outwards, that tumor should be punctured without loss of time; for there will then be *no* chance of the re-absorption of the pus; and if the swelling be left to itself, troublesome, burrowing sinuses will be apt to form in the thoracic and abdominal parietes. As we have no choice in such a case about the place where the aperture is to be made, authors have termed the operation *the operation of necessity*; and they distinguish the case in which the surgeon is at liberty to introduce his trocar wherever he pleases; they say that then the *operation*

of election takes place. Now the question is, what spot is the best for this operation of election?

If there be any part of the surface which is resonant on percussion, or which affords any sound of respiration, that part must be avoided. It is probable that the lung, in that place, is fastened by adhesions to the costal pleura. Of course you would not thrust in a trocar where you saw or felt that the heart was beating.

The object to be kept in view is that of making the opening in the situation which will allow the freest and most perfect vent for the liquid. The intercostal space between the sixth and seventh true ribs, where the digitations of the serratus major meet those of the obliquus externus muscle, is the place usually recommended. Laennec prefers the space between the fifth and sixth ribs. He observes that, on the right side, an enlarged liver frequently reaches as high as the sixth, or even as the fifth rib. When the diaphragm is pushed as high as this (and I believe that Dr. Edwin Harrison, who has paid much attention to this point, will tell you that it is often pushed up even higher) there is an obvious risk of penetrating it with the trocar. In fact, Laennec committed that error himself. After making an incision between the fifth and sixth ribs, he thrust the instrument, as he supposed, into the thorax; and was a good deal surprised to find that no gush of liquid followed its introduction. The patient died; and dissection showed that the trocar had entered the cavity of the abdomen after transfixing the diaphragm, which, having been forced upwards by a large liver, had contracted firm adhesions to the seventh rib. I have myself witnessed a similar mischance, on the other side of the chest. The integuments of the side were œdematous; and it was thought that a little serum issued upon the passage of the grooved needle. This serum must have come from the infiltrated cellular tissue. No liquid was evacuated by the trocar. The patient died a day or two afterwards of peritonitis. The instrument had perforated the diaphragm, and entered the spleen, which was unusually large.

I am tempted to relate the particulars of one of the prosperous cases that I before briefly adverted to. It occurred in a lad of nineteen; a patient of my colleague, Dr. Wilson. On his admission into the hospital he bore all the marks of copious effusion into the left pleura; the side enlarged and motionless, and dull on percussion; the intercostal spaces tense and even with the ribs; the heart beating to the right of the sternum; respiration puerile on the right side, inaudible on the left; urgent dyspnoea; a tendency to coma, marked by drowsiness

and blueness of the cheeks and lips. In short, the boy was on the very verge of suffocation. He had been ill about a month; and had been bled, and cupped, and brought under the specific influence of mercury. Dr. Wilson judiciously directed that the liquid should be let out.

A grooved needle was first passed between the fifth and sixth ribs; and some serum following the puncture, a trocar was then introduced by Mr. Tuson, and nine pints of a clear fluid were drawn off. During the operation the patient became faintish at times, and then the orifice of the canula was stopped for a moment by the finger. The immediate effect of the tapping was most interesting and gratifying. Even while the liquid was flowing, the heart was observed gradually to move over from beneath the right mamma towards its natural situation; and his difficulty of breathing was signally relieved. At the beginning of the operation he respired fifty times in a minute; at its conclusion thirty-eight times only. A good deal of air entered while the liquid was escaping: and for some days after the operation a splashing sound was audible on succussion of the chest; and one part of that side was unnaturally resonant, when struck, and another part unnaturally dull; and whatever was the posture of the patient, the hollow sound was uppermost, and the dull sound was undermost; and when he sat up and spoke, or coughed, a brazen resonance was heard by the ear applied to the scapular region. This lad got quite well, without the recurrence of a single bad symptom. He afterwards presented himself at the hospital; and I understand that the left side was found to be in a very slight degree smaller than the right.

The liquid evacuated in this case was clear and transparent. It separated, on cooling, into three parts; one of quite watery consistence, one more viscid, and a third which constituted a soft, transparent, jelly-like mass of fibrin.

In this instance no injurious consequences resulted from the free admission of air.

It may sometimes be necessary to puncture the cavity for *mere* pneumothorax: when, for instance, the pulmonary pleura has been pricked by a fractured rib, and air passes from the lung into the pleural sac faster than it can be absorbed; fast enough to compress the lung, and to threaten death by apnoea. The diagnosis of such a state cannot be difficult. The existence of the fracture, the tympanitic sound given by the chest on the injured side, the absence of respiratory murmur in the tympanitic part, and the increasing dyspnoea, all point to the same conclusion. Now a trocar of the smallest size—or even an acupuncture needle—would

suffice to give vent to the imprisoned *air*, which will escape with an audible hissing noise. In some cases it must have existed in very large quantity, for the stream of issuing air has been strong enough to blow out a candle several times in succession; the flame being each time immediately relighted.

The same necessity for puncturing the cavity of the pleura from without may arise in cases of pneumo-thorax depending on specific disease in the lungs: but we cannot regard the operation as *curative* in such cases. Its value is very different from that which experience has shown to belong to it in empyema from acute or chronic pleurisy. Yet if it saves life for the time, if it prevents impending suffocation, and relieves existing distress, and postpones the fatal event, it is not *without* its value: and it has many times been done, and been followed by very gratifying results; but it has never, that I know of, been followed by entire recovery. Dr. Davies had superintended the operation in nine instances of pneumo-thorax with effusion: and *all* the patients died from tubercular complications.

There are, indeed, on record examples of recovery after the operation, when pneumo-thorax had existed, and under very unpromising circumstances. I should have stated before, that as the pus, in empyema, sometimes finds its way outwardly, penetrating between the ribs, and forming an external swelling, which, if not opened by the scalpel, will at length burst; so it also, sometimes, escapes by making a road into some part of the air-passages, and being expectorated. Now the operation of paracentesis, in such a case, *there being no tubercular disease*, has been successful. Le Dran relates an instance in which he operated for empyema, where "the injection of a small quantity of mel rosarum and barley water through the wound excited coughing, and part of it was coughed up through the mouth, mixed with pus;" thus clearly proving the existence of a fistulous passage through the lung; notwithstanding which the patient recovered completely. The effusion was probably circumscribed. But you will find other cases of a similar kind referred to by Dr. Townsend, in the *Cyclopædia of Practical Medicine*.

This concludes what I have to say, not only of pleurisy, but also of pneumothorax, and of empyema, which are often treated of as separate and independent disorders. They are more frequently connected with pleurisy than with any other form of disease, and they are almost always *consequences* of disease or of injury. But I believe I have omitted nothing of importance in respect to either of them.

OBSERVATIONS

ON THE

MANAGEMENT OF THE PLACENTA.

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(For the Medical Gazette.)

HAVING, on another occasion, entered upon an examination of some practical questions connected with natural labour in its first and second stages†, I have ventured to bring under the consideration of this Society a few remarks upon the management of the last, and not the least important one—the delivery of the placenta.

So much has been written upon this point of practice, and the rules regarding it seem so settled, that but little opportunity is afforded of throwing any new light upon it. In any remarks I am about to make, I do not, therefore, claim the merit of novelty; but having observed amongst obstetric writers, that what appears to me to be an essential principle in securing a favourable termination of labour, is either slightly glanced at, or silently passed over, and sometimes even denied, I have thought it useful to examine more carefully its validity, and having found reason to consider its adoption of some importance, I trust it may not be considered unsuitable to direct the attention of the Society to the subject.

The management of the placenta, like every thing else in medicine, has given rise to a difference of opinion, and a very opposite practice has been adopted, at different times, with regard to it. In order, therefore, to place the question in a clear light, it will be necessary to trace the changes which have taken place in the practice adopted by the profession.

Two very opposite principles have, at different times, governed them in securing a favourable separation of the placenta. The older one was that recognised by Smellie, according to which the removal of the placenta was to be effected by the manipulation of the attendant, who was to proceed, *secundum artem*, to take it away, and thus prove the value of his assistance. I shall take the liberty of quoting the rather quaint directions of Smellie for this purpose, as it will explain the ordinary mode adopted, in his day, by the profession of which he was the distinguished head.

"In order to deliver the placenta; take hold of the navel-string with the left hand, twining it round the fore and middle fingers, or wrapping it in a cloth that it may not

* Read at the Harveian Society.

† Dub. Jour. vol. ii. p. 180; vol. xviii. p. 75.

slip from your grasp ; then pull from side to side, and direct the woman to assist your endeavour by straining as if she were at stool, blowing forcibly into her hand, or provoking herself to retch by thrusting her finger into her throat. If by these methods the placenta cannot be brought away, introduce your hand slowly into the vagina, and feel for the edge of the cake, which, when you have found, pull it gradually along : as it comes out of the os externum, take hold of it with both hands and deliver it, bringing away at the same time all the membranes, which, if they adhere, must be pulled along with leisure and caution.”—Vol. i. p. 253.

Thus the separation of the placenta was seemingly effected by the adroitness of the practitioner, who, having gone through the above ceremony, succeeded in removing it, and also in giving satisfactory proof of his skill. When the most eminent practitioner of his day treated it so much as a business of art, it is not difficult to imagine the mischiefs which were effected by the ignorant meddlers of the period, nor can it excite surprise that the scientific William Hunter, who was, no doubt, a witness of many such instances, should have fallen into the opposite extreme, and objected to interference altogether. Hence arose the second principle of practice. Hunter, considering the separation of the placenta to be as completely an effort of nature as the delivery of the child, left it to nature to accomplish ; nor was it till near the close of his useful life, that some fatal hæmorrhages and serious uterine inflammations led him to alter his opinion, and to perceive the danger of leaving the placenta in the uterus for an indefinite length of time to be expelled.

The influence of Hunter’s authority effected an important revolution in the opinions of the profession. It was no longer considered necessary to extract the placenta in all cases ; the power of the uterus to expel it without assistance was established ; but experience proved the necessity of limiting the period of non-interference. Denman, impressed with the value of Hunter’s doctrine, perceived, at the same time, the danger of carrying it too far, and adopting a middle course, laid down a rule which he considered to be final. He says, “ I believe we are at length arrived at a state of practice with regard to the management of the placenta, that will with difficulty be improved—a practice founded upon common sense and observation, that the placenta is, and generally ought to be, expelled by the action of the uterus in the same manner as the child, feeling ourselves at liberty and called upon to assist only when the action is not equal to the purpose, or when hæmorrhage, or other dangerous circumstances, demand our assistance” (p. 364).

No accidental cause interfering, it became a question of time when the action of the uterus was to be considered unequal to the expulsion of the child. Denman states, “ that, if the placenta be not expelled at the end of *four hours* from the birth of the child, it is generally wise to determine upon extracting it.” Since his time, this period has been limited to two hours, one, and even half an hour. Dr. John Clarke, by a series of careful observations, determined that the ordinary period in which the uterine pains return is from 20 to 25 minutes, when the placenta should be expelled at least into the vagina ; but as it might be suffered to remain a longer time without danger, each practitioner adopted a different rule within these limits.

Before, however, proceeding to introduce the hand into the uterus, different means were put in practice to secure its removal : if the placenta was ascertained to be in the vagina by the finger reaching the insertion of the funis, the hand was passed partially up, in the manner directed by Smellie, and the placenta withdrawn. If within the womb, which was assumed to be inert, attempts were made by frictions over the abdominal covering of the uterus to excite its action. Dewees observes, “ All attempts to deliver the placenta must be forborne until we have, by properly instituted frictions over the region of the uterus, obliged it to contract and harden itself under the hand, and, at the same time, retire lower into the pelvis (p. 513). Burns recommends “ pressing on the uterine region, and rubbing the abdominal covering, or gently grasping the womb through the relaxed parietes.” In the same way even the latest writers of the present day might be quoted to prove that the general practice is, after the child is born, to leave the womb for a certain time to itself to expel the placenta, which, if it does not take place, *inertia uteri* is assumed, and means adopted to excite its action, failing in which the hand is introduced. The abdominal bandage was never applied by Denman before the sixth day after delivery, who very naturally shuddered at its abuse, when it was applied for the purpose of squeezing the patient into shape. It was considered by Dr. H. Ley as useless, and therefore objected to ; and of the present day, Drs. Collins and Conquest are the only* British writers I have met with who recommend its application previous to the expulsion of the placenta. In all this varying treatment, the influence produced on the uterus by its altered relation to the abdominal parietes seems to have attracted but little notice, nor has the agency of the muscles of

* There may be other authors who have recommended this practice ; if so, I shall be glad to be corrected.

the abdomen in stimulating the action of the uterus received the attention it merits. It is necessary to consider the condition of the uterus previously and subsequent to the expulsion of the child. We find every expulsive effort of the mother during the passage of the child engaging the diaphragm and abdominal muscles in powerful action; an equable pressure is thus conveyed over every part of the fundus uteri, which must essentially contribute to maintain its action. As soon as the child is expelled, if it were in a state of nature, or with a healthy strong woman, the abdominal muscles contracting on the contents of the abdomen, continues a uniform pressure on the retiring uterus, and therefore, if the placenta be not detached on the delivering of the child, the uterus is not permitted to relax, but, with the returning pain, is compressed on all sides by the abdominal viscera; being thus stimulated to increased action, the placenta is expelled gradually and safely by successive contractions. Such would be the process of nature in a healthy and vigorous constitution, where the walls of the abdomen retain their strength and elasticity; but while we thus look at the powers of nature to empty the uterus of its contents, it is necessary to recollect the influence of our civilized habits in interfering with its exercise: an atonic condition of the muscles of the abdomen would lead to very opposite results: the uterus, deprived of the support it should have received, would cease to act as soon as it ceased to be excited by the limbs of the child. The placenta within the uterine cavity would at first excite a few feeble pains until the uterus became accustomed to its presence; when these efforts, not being supported, would cease, and the placenta be retained by what is called *inertia uteri*. The atony existing, however, much more in the abdominal covering than in the uterus, as soon as means are adopted to supply what these muscles would naturally accomplish, and that the fundus of the uterus is compressed by the hand, it is no longer inert, but immediately obeys the stimulus, and expels the placenta. Such are precisely the circumstances under which retentions of the placenta frequently occur. After the birth of the child, the uterus remains for some time in a state of contraction, as may be observed by placing the hand on the fundus. After an interval varying from five to fifteen minutes (the uterus generally continuing in this contracted state), a slight pain will return, but the uterus, not being supported, is much more relaxed after the pain than before it. If the funis be drawn, the uterus may be again excited, and a similar pain return; but being insufficient for the purpose, the placenta is not detached, the practitioner ceases from any further attempts

to remove it by such means, and determines, as no hæmorrhage has taken place, to wait for whatever period he has determined in his own mind would authorise him to introduce his hand into the uterus; then, having previously adopted the means already stated, frictions, &c., he proceeds to its removal, if they fail. In such a case, the placenta is generally found lying in the uterus, detached, and the case is set down as *inertia uteri*. If, however, the attendant be not so patient, but will draw the funis, frequently pass his fingers up to feel the insertion, and so irritate the lower section of the uterus, the chances are that it will be thrown into a state of irregular contraction, rendering its removal much more difficult, and be described as hour-glass contraction of the uterus.

That atony of the abdominal muscles, rather than *inertia uteri*, is the cause of such retentions, may readily be admitted. From the practice of compressing the abdomen to acquire a fashionable but most unnatural shape, its muscles become comparatively inert even before pregnancy takes place: the influence of this atonic condition upon the contents of the abdomen, the weakened peristaltic action of the intestines, their coats readily yielding to flatus, and sometimes even distended to the utmost from the same cause, when increased by disease, are facts obvious to the experience of every physician. It is not surprising, therefore, that when a weak muscle is over distended by the gravid uterus, it should be unable to contract itself sufficiently when the uterus recedes from it, and that consequently the latter, deprived of the support it should receive, ceases to act, and retains the placenta. If, on the other hand, such support be artificially supplied, by a bandage firmly and equably put on, or by the hands steadily compressing the fundus uteri, the risk of such retention may not only be prevented, but in cases where it has already taken place the uterus may be made to act with sufficient vigour to throw off the placenta without further trouble. For further evidence in favour of this view, I may refer to the late Dr. Joseph Clarke, of Dublin, who had early observed the importance of this principle since adopted by Dr. Collins and others, viz. "by pursuing, with a hand on the abdomen, the fundus uteri in its contractions until the foetus be entirely expelled, and afterwards, continuing for some time this pressure, to keep it, if possible, in a contracted state."—*Collins*, 121. "Labours thus conducted," says Dr. Clarke, "will be less likely to be followed by retention of the placenta, uterine hæmorrhage, or after-pains*."

If these premises, then, be correct, and

* Dub. Med. Trans. vol. i. p. 370.

we are permitted to assume that the uterus requires a certain degree of compression and support after the expulsion of the child, it is obvious that a bandage should be applied, immediately on its birth, round the pelvis and abdomen, as it supplies, though certainly imperfectly, the support which the abdominal parietes ought to give. The practice of binding the abdomen when the child was delivered is not new: it had been early adopted and abused, consequently objected to and given up; but it had been applied on a false principle, for the purpose of tightening the abdomen to the utmost extent, to preserve, as it was said, the shape; perhaps more correctly, the deformity. Such violent constriction was often followed by mischievous consequences, and its abuse gave rise to a prejudice against it. Denman observes, "Some years ago it was a general custom to bind the abdomen very tight immediately after delivery, with the view of aiding the contraction of the integuments, and of preserving the shape of the patient. In some countries, India in particular, this was practised to a degree that one cannot think of without shuddering at the mischief which must, of necessity, have been very often occasioned. In this country the practice has been very much discontinued, as useless and pernicious; and it is now wholly or nearly laid aside, except in particular cases, which have been already specified, till five or six days after delivery, when a broad band, daily, but very gradually, drawn a little tighter, may be applied, not only without injury, but with some advantage" (p. 426).

Since Denman, some writers scarcely notice its use, others recommend its application *after* the placenta is removed; some still object to its being at all employed, while a few continue to employ it on the principle which has been stated—in order to secure a favourable separation of the placenta. In this uncertainty as to its utility, I may be permitted to add my humble testimony in its favour. As an effectual agent in accomplishing what the abdominal muscles too often fail to do, to preserve an equable pressure over the fundus uteri, and to secure its uniform contraction, I have found a properly applied bandage of the greatest service in assisting the uterine pains; but, in order to produce the effect, it is necessary to recollect the intention. A bandage should not be applied merely for the purpose of binding the pelvis, or of constricting the abdomen over the fundus uteri—a method of application which becomes, sometimes, intolerable to the patient: it should include the whole of the abdomen, being drawn with the greatest tightness around the pelvis, and gradually less so as we approach the diaphragm. The practice of using a narrow bandage, that will hardly reach above the

fundus uteri, seems to me worse than useless. To the patient it produces all the unpleasant constriction of a belt tightly drawn round the loins; while the uterus is compressed by the bandage alone, and the intestines, being left free in the upper part of the abdomen, project it over the binder, causing a very unsightly appearance, and depriving the posterior and lateral portions of the uterus of the pressure which should be conveyed, through them, to these parts. The application of a bandage, under the circumstances herein stated, must not be confounded with its use in cases of true inertia uteri, in which there is severe hæmorrhage and very great difficulty in maintaining its permanent contraction. In such instances the most powerful compression, by means of graduated pads, and a firmly applied binder, is often necessary to prevent relaxation and a return of the hæmorrhage.

Having been convinced of the utility of the bandage applied in the manner already alluded to, as well as of the advantage of Dr. J. Clarke's practice of following the contracting uterus with the hand, I have been led to adopt the same principle in cases of retained placenta, and have put in practice a means of detaching it somewhat different from that generally employed, the objections to which may be briefly stated.

Keeping the funis on the stretch, pulling by it, and introducing the fingers within the vagina to feel the insertion, are all liable to the risk of making the uterus contract irregularly, especially if the placenta be attached to the lower portion of the uterus; not to speak of the effects of any improper violence in attempts thus to remove the placenta as inversion, rupture of the funis, &c. Frictions over the anterior wall of the uterus I have known to produce the same effect: that portion of the uterus was contracted, while posteriorly the uterus was relaxed, but more frequently, when the abdominal covering was rubbed in this way, the uterus contracted, but almost immediately relaxed again, escaped from the hand, and was pushed by it towards the iliac fossum, where I have found it, in more than one instance, lying contracted, while the attendant was busily employed rubbing the abdomen and intestines in expectation of a second contraction of the uterus, not a little surprised at its remaining so long uncontracted without hæmorrhage. In all such instances, having applied the bandage tightly about the pelvis, but leaving the remainder free, I endeavoured to grasp the fundus of the uterus firmly with both hands, and having brought it as much as possible in the axis of the brim of the pelvis, felt over the whole posteriorly and laterally to ascertain any irregular contraction. Keeping it steady in this position for some time, with

the hands over the cornua uteri, the uterus is soon found to become harder, and a pain to follow : compressing the uterus, then, with the hands, the pain becomes so strong, that the patient generally complains loudly of a renewal of her sufferings ; the placenta, however, will soon descend, and sometimes be extruded completely out of the vagina : the loose portion of the bandage can then be applied as before, and the risk of any subsequent relaxation prevented. By this means it is unnecessary to meddle with the funis, unless to assist in drawing it out of the vagina, which is sometimes itself contracted, and presents a certain degree of resistance to its exit. If it should happen that the lower portion of the uterus has already contracted, or a tendency to form the hour-glass contraction take place, the same means will often succeed in overcoming it ; the stricture will at length yield to the successive efforts of the fundus when they are thus supported and rendered efficient by the steady pressure of the hand.

In these observations I have not alluded to the effect sometimes produced on the circulation by atony of the abdominal muscles, when the pressure to which it had been accustomed is suddenly taken off, as I should wish to confine them to one point of practice—the management of the uterus when retreating again toward the pelvis. If I have shown that, in this stage of labour, nature has designed that the muscular covering of the abdomen shall, by its contractions, maintain an equable pressure around and upon the uterus ; that, when this cannot be accomplished, the action of the uterus becomes dormant and the placenta retained, not from want of power in the uterus, but from want of stimulus, the practice we should adopt is at once indicated, and the error of assuming inertia uteri in many cases of retained placenta will be sufficiently apparent.

Such being the practice I invariably adopted during and since my residence in the Dublin Lying-in Hospital, I might quote several cases in which it perfectly succeeded. I have selected, however, three of the most striking, as sufficient to illustrate what has been stated.

The first is a case of a woman with her fourth child, who had been attended in the town by a midwife : the labour was of short duration, but the placenta was retained ; the child was born at 10 o'clock in the morning, and the attendant, who was a careful woman, not finding it to come at the usual time, applied an apron round the loins as a bandage, and waited patiently the return of the pains. Matters remained in this state for nearly four hours : the midwife occasionally pulled at the funis, and rubbed the abdomen, but to no purpose. At the end of that time

I was sent for, and, on examination, found the uterus lying in the left iliac fossum quite contracted ; the apron pinned tightly across the pelvis, but scarcely reaching over it ; and no appearance of hæmorrhage : having obtained a proper bandage, it was applied round the pelvis. The uterus was grasped with both hands, and brought in a line with the axis of the brim of the pelvis : the act of doing this brought on a pain ; and, by firmly compressing the uterus between the hands, the funis soon became turgid, some clots escaped, and at length the placenta came down into the vagina, from which the midwife removed it ; the bandage was then evenly pinned on, and the woman did well.

The second, a woman with her third child, who was attended by a practitioner. Every thing proceeded favourably until the separation of the placenta. The child was born at twelve o'clock in the day. The placenta not coming away after the first two hours, attempts were made by drawing the funis, and passing the fingers as far as the os tinæ, to get it down, but without success. A second practitioner was then called in to introduce his hand, if necessary, to remove it : no hæmorrhage, however, taking place, he would not do so, but promised to call again. Not being able to return, I was sent for at 10 o'clock at night. No hæmorrhage had taken place, though the uterus was not strongly contracted, like the former case : it lay in the depending iliac fossum. The same means were adopted as before, but the uterus did not yield with every pain ; some clots came away, and the funis curled with the turgid vessels, but the placenta did not stir. Having determined to introduce my hand to remove it, I resolved to make one more attempt to get it away without doing so, as there was no want of tone in the uterus, and it seemed as if the obstacle was produced by the permanent contraction of the lower section of it. Having therefore kept the uterus for some time steadily compressed, at length a powerful pain came on. The constriction of the lower segment evidently yielded, as the placenta was suddenly shot into the bed with unexpected rapidity. Nothing further occurred unfavourable.

The third is the case of a poor woman whom I had been requested to see after having been several days in labour. The child's head had been suffered to remain nearly twenty-four hours fixed in the pelvis ; and between frequent examinations by the vagina, and the midwife attempting to dilate it, in order to make room for the child, as she supposed, the passages were in a tolerably inflamed state ; the child was dead and putrid, the cranial bones being loose. She was delivered by the crotchet ; and on drawing the funis, with very little force, being putrid, it gave way : no hæmorrhage fol-

lowed. Fearing that the uterus might have been inflamed, and its structure softened, I was unwilling to make any attempt to remove the placenta by the hand lest the uterus might give way. Having, therefore, given an anodyne, and left a pupil in charge of the case, I returned again after four hours, and tried what pressure on the fundus might do. It succeeded in exciting the uterus to action; and a very putrid placenta was expelled.

In this case inflammation of the vagina was followed by peritonitis, of which the woman died on the fifth day.

All these cases were amongst the lower classes, and occurred out of the hospital; and, as in that institution, in no case was the placenta permitted to remain in the uterus after two hours, I have selected them to show the length of time the placenta may remain, and yet be thus got away. In thesecond case it was for ten hours in the uterus.

8, Brook Street, Grosvenor Square.
October 28, 1841.

ON THE
SOLUTION OF URINARY CALCULI
BY THE WATERS OF VICHY :

Being the Report of a
COMMISSION OF THE ACADEMY OF MEDICINE,
PARIS.

To the Editor of the Medical Gazette.

SIR,

Not long since, I was present at one of the ordinary meetings of a scientific society, when a paper was read, upon the solubility of compounds of uric acid with various alkalies. These experiments were made in the laboratory. The remarks made by the author of the paper, as well as those made by persons present, impressed on my mind a belief, that some much more direct and important experiments made upon the waters of Vichy, and which formed the subject of a report of a commission of the Academy of Medicine, were little if at all known in this country, although a certain portion of some of the papers to which the report refers are mentioned by Dr. Willis.

The report is one which should be generally known, and although I do not feel bound to adopt all the opinions contained in it, I still consider it of sufficient importance to justify me in giving it an English dress, and begging you to give it a place in the GAZETTE, as a means of securing for it an exten-

sive diffusion. In the translation, I have rendered it as literally as possible, as the surest way of conveying the author's meaning.

It may be as well to state, that the analysis of the water furnished by the spring, called the Grande Grille, with which the experiments were made, yielded the following results, as shown by M. Longchamp :—

Temperature, 32° to 34° Reaumur.					
Water	-	-	-	-	992·5
Carbonic Acid	-	-	-	-	0·9
Carbonate of Soda	-	-	-	-	4·9
“ “ Lime	-	-	-	-	·3
“ “ Magnesia	-	-	-	-	·08
“ “ Iron	-	-	-	-	·01
Muriate of Soda	-	-	-	-	·5
Sulphate of Soda	-	-	-	-	·4
Silica	-	-	-	-	·07

It would be desirable to repeat the experiments in our own country, and it is possible that the soda water of commerce, or some modification of it, might well enough represent the Vichy water for that purpose.—I am, sir,

Your obedient servant,
B. PHILLIPS.

17, Wimpole Street,
Oct. 24, 1841.

On the 9th of April, 1839, a report was made to the Academy of Medicine at Paris, by M. Berard, on the part of a commission, composed of MM. Husson Bricheteau, Henry, and Blandin. It had reference to three memoirs presented by M. C. Petit.

The *first*, entitled “The Medical Treatment of Urinary Calculi, and particularly their solution by the waters of Vichy, and the alkaline carbonates” (1834).

The *second* contained “New Observations on Urinary Calculi in connexion with the thermal waters of Vichy” (1837).

The *third* contained “Further Observations relative to the Efficacy of the Thermal Waters of Vichy against Stone and Gout” (1838).

M. Berard commences by stating, that the business of the Commission was only to examine into as much of those memoirs as concerned the medical treatment of calculous affections. “This point of pathology raises questions of which it is needless for me to point out the importance. I shall not seek to trace a long history of the means employed for the purpose of dis-

solving those concretions. The most of those means have at first been warmly advocated, but they have soon sunk into merited forgetfulness. In fact, what could have been expected from experiments made at random, at a time when the stranger a remedy, the more was it prized?

The question of the solution of urinary calculi is almost completely in the domain of chemistry, and cannot be completely investigated without it; therefore, as might have been expected, the only rational attempts to decide the question take their origin from the time when medical men called in chemistry, to assist in resolving that important problem of therapeutics. Scheele, in a paper published in the *Stockholm Transactions*, 1776, was the first to give any positive notions upon the chemical composition of urinary concretions. At a later period Bergman and Morveau confirmed the discoveries of the Swedish chemist, and found some new substances in vesical calculi. At last the researches of Wollaston, in 1797, and the analysis of 600 calculi made almost at the same time by Fourcroy and Vauquelin, came to constitute, in a definitive manner, the state of science on this question.

The chemical composition of calculi being known, it was easy to indicate a solvent appropriate to each variety. But all those experiments made as it were on dead matter, all those discoveries coming out of the laboratory of the chemist, should be made profitable, by a science which comprises, at the same time, the exigencies and resources of the organization. It was necessary that the medical man should find means of applying those new acquisitions. The first idea which was presented, was to introduce into the bladder a fluid capable of dissolving the calculous concretion, and yet harmless enough to do no damage to the organ into which it was injected.

The double current sound, allowing of the incessant renewal of the solvent fluid, gave a means of acting in the most efficient manner; and it would seem even astonishing that surgeons have not more carefully followed out and determined the value of this means, did we not know what repugnance patients feel to the prolonged presence of the sound in a bladder already irritated by a stone.

Such was the state of science on this question, when the physiological researches of Magendie, upon the causes and treatment of gravel, came to shew, more precisely than had previously been done, the important changes which may be produced in the composition of the urine by particular aliments. Almost at the same time the University of Heidelberg proposed for concours the following question:—"Determine what are the substances which, introduced into the bodies of men and animals, either by the mouth or by any other way, pass into the urine; and point out what may be inferred from this phenomenon." Dr. Wöhler, whose memoir was crowned, demonstrated, by a series of experiments upon man and brute animals, that the alkaline carbonates and subcarbonates pass into the urine without change in their condition; a result of high importance, on which is at present founded all the doctrine of the medical treatment of urinary calculi. At last, M. D'Arcet discovered that the thermal waters of Vichy also enjoy the property of making the urine alkaline. We possess, then, three fundamental data for the solution of the problem:—

1. The chemical nature of urinary calculi.
2. The fluids proper to bring about a solution.
3. A simple means, exempt from danger, for putting calculi in contact with the solvents.

It only remains to seek how far chemical experiment will justify theoretical anticipations. Such is the principal object proposed by M. Petit. Yet the author has not neglected theory; for one part of his memoir is consecrated to the study of the action of the pure Vichy water upon urinary concretions, and to the explanation of the mechanism of their destruction.

We shall follow the author in the discussion of these two orders of facts, exposing, first, the results furnished by direct experiments on urinary calculi. The following is the mode in which the experiments have been made:—

The author having procured a certain number of calculi of different natures, the composition being ascertained by analysis, those calculi were sawn into two equal portions; one half was reserved as a point of comparison; the

other was carefully weighed, and drawn, for the purpose of preserving its general appearance and its form; it was then placed in a little wicker basket, and immersed in the fountains of the "Grande Grille." Each basket was placed in a vase destined to receive the particles which might be detached from the calculus. The water was easily renewed; its temperature was 38 to 39 centigrade. The calculi were removed and dried; they were afterwards weighed and drawn.

Here follow the results of 15 experiments:—

1st. Two shells proceeding from an uric acid calculus with traces of ammonia were immersed for twenty-five days; loss 72 per cent.

2d.—Debris of an ammoniaco-magnesian phosphate calculus, was immersed eighteen days; loss 45 per cent.

3d.—The half of an uric acid calculus with traces of ammonia was immersed for thirty days; loss 39 per cent.

4th.—The half of a calculus with concentric layers. At the centre uric acid and urate of ammonia, and a little oxalate of lime; first layer very thick, oxalate of lime; second less thick, uric acid with traces of ammonia, of oxalate and of phosphate of lime; the shell phosphate of lime and ammoniaco-magnesian phosphate and oxalate of lime, was immersed thirty days; loss 29 per cent.

5th.—Uric acid calculus, with points of oxalate of lime, was immersed thirty days; loss 48 per cent.

6th.—Ammoniaco-magnesian phosphate calculus, was immersed eighteen days; loss 59 per cent.

7th.—Ammoniaco-magnesian phosphate calculus, immersed twenty days; loss 71 per cent.

8th.—Uric acid calculus, immersed twenty-three days; loss 65 per cent.

9th.—Ammoniaco-magnesian phosphate, was immersed forty-three days; loss 67 per cent.

10th.—Uric acid calculus, was immersed twenty-seven days; loss 74 per cent.

11th.—Oxalate of lime calculus, with nucleus of urate of ammonia, was immersed forty-four days; loss 12 per cent.

12th.—Ammoniaco-magnesian phosphate calculus, with nucleus of silica, was immersed eighteen days; loss 53 per cent.

13th.—Urate of ammonia calculus, with traces of phosphate and oxalate of lime, immersed eighteen days; loss 60 per cent.

Those calculi have, generally, lost as much more as they were more voluminous. The diminution which they have experienced appears to have been also in relation with their hardness and their cohesion. Yet it was easily seen that their external surface, which formed their most compact portion, was equally altered.

If we compare the loss which the uric acid calculi have sustained, with that experienced by the ammoniaco-magnesian phosphates, we find that the first, after twenty-seven days of immersion, have lost 53 per cent. of their weight; while the second, after only twenty-three days, have lost 60 per cent.; a result as remarkable as unexpected, which we will proceed to explain.

Desiring to know how the loss which the different calculi have sustained, by immersion in the Vichy waters, was to be explained, M. Petit analyzed the residue, collected in the vases placed under each basket. One of these residues, small in quantity, was formed of uric acid, combined partly with ammonia; another, in great proportion, contained the ammoniaco-magnesian phosphate. The analysis, before the experiments, had demonstrated that the chemical composition of these calculi was identical with the residue obtained. M. Petit thinks that the uric acid which those calculi lose is in great part dissolved; whilst in those of the ammoniaco-magnesian phosphate the diminution is the result of the disintegration of the saline matters which compose them.

The waters of Vichy exercise, therefore, a double action upon urinary concretions. On the one hand, the bicarbonate of soda contained in the water, combined with the uric acid of the calculi, causes it to pass into the state of urate of soda, and thus determines the solution; on the other hand, the mucus, which calculi contain, is attacked by the alkaline salts of the mineral water, and the elements of the calculus, deprived of the cement by which they are agglutinated, fall apart in particles of various sizes.

It is in virtue of this disintegration that certain urinary concretions, in-

soluble or only sparingly soluble in alkalies, undergo a more prompt and more considerable diminution of volume than that which results from the solution of uric acid calculi.

Although these facts, pointed out by M. Petit, already existed in science, and have been indicated by chemists of the highest merit, particularly by M. Chevallier, still your Commission, not being able to repeat exactly the experiments referred to, has thought it right to seek to repeat those experiments by using water brought from Vichy to Paris. It has also attempted to resolve experimentally some new questions. Here follow the results they have obtained:—

We have immersed many calculi of different natures, in determined quantities of mineral waters, the temperature being maintained between 35 and 45 centigrade.

The calculi were very different in their nature, their volume, and their texture. Those formed of phosphate of lime and of ammoniaco-magnesian phosphate with traces of uric acid, contained little mucus. Their cohesion was feeble; those of an orange or chamois yellow colour were more or less large, ovoid, formed of concentric, superposed strata, and they possessed a great quantity of uric acid, and of urate of ammonia, some mucus, and a little phosphate; others were very hard mammillated fragments proceeding from calculi originally large; and the analysis indicated much of oxalate of lime and of mucus, as well as a certain proportion of uric acid, and traces of phosphate.

Those calculi were, each, subjected to the action of a litre (which is about an English quart) of mineral water for a fortnight; and the liquid at this time was replaced, during another fortnight, by a new quantity, and again by a third.

Each calculus had, in this way, been in contact with about three quarts of mineral water; it was then dried and weighed, and the liquid was filtered and analysed separately.

No. 1. A tolerably large, rounded, smooth, nankeen-colour calculus, formed of uric acid, urate of ammonia, and a small quantity of mucus and earthy phosphate; weighed when dry 4·65.

At the end of six weeks of contact it was wiped and weighed anew; it had lost 1·73 or 37·2 per cent.

No. 2. A similar calculus, but smaller, weighing when dry 0·67; lost 0·39, or 58·2 per cent.

No. 3. A large calculus, sawn into two equal parts, composed of concentric superposed strata, having a rougher cortical portion than its predecessors, of a deeper orange colour, and more cohesion, was analyzed: uric acid predominated; urate of ammonia, mucus, and earthy phosphate, were present.

Its weight, when dry, was 24·3; and after six weeks it had lost 2·8, or 11·5 per cent.

No. 4. A fragment of calculus was sawn into two: it was friable, of a whitish colour, formed of thinnish zones: it shewed, upon analysis, the following composition:—Almost equal parts of phosphate of lime, and of ammoniaco-magnesian phosphate, a little mucus, uric acid or urate, and a nucleus of oxalate of lime.

It weighed, when dry, 4·55, and lost 1·35, or 29·6 per cent.

No. 5. A nipple-like fragment, brownish, very hard, and presenting some concentric layers; was composed, in great part, of oxalate of lime, with uric acid, and mucus.

It weighed 0·75, lost 0·13 of uric acid, or 17·3 per cent.

It became cavernous when examined through a lens, but had lost little of its colour.

The more or less complete dissolution of these calculi had then been brought about by the prolonged action of Vichy water upon them.

The solution occurred with circumstances which it is proper to mention.

After some days of immersion in the mineral water, the calculi, those principally in which uric acid and urate of ammonia predominated, became whitish, opaque at their surface, and at those points corresponding to concentric layers (when they were sawed). Soon after this surface cracked, and the white matter was detached in thin laminae, which were precipitated to the bottom of the vase; this matter was collected, and found to be urate of soda: the action being continued, new crusts were detached and precipitated, or partly dissolved, in the supernatant water.

The calculus then became usually friable, and often easy to break; sometimes it was split up, in consequence of the water (becoming infiltrated between

layers) causing the mucus to swell; a certain part of it also being dissolved. In this way the molecules were separated.

Thus the results which we have obtained confirm what has been stated touching the influence of the Vichy water. It is necessary to add a remark which has not escaped M. Petit, that, in all the experiments which have been made on the subject, the calculi which were used were dry; some had been taken from the bladder many years before: the mucus entering into their composition was therefore less easily acted upon by alkalies, and the dissolution or disaggregation must be more difficult and slower than when the calculus is recently taken from the bladder.

These facts are certainly of great importance; but we must be on our guard lest we attach to them too great weight. Because a calculus is dissolved in Vichy water, does it necessarily follow that it will be equally dissolved in urine—become alkaline by the use of this water? To make the experiment more conclusive a calculus should be dissolved in urine made alkaline. But we know how rapidly this fluid is changed after its excretion. Add to this that the quantity of urine contained in the bladder is smaller than the quantity of Vichy water used in experiment by M. Petit, that the urine is not incessantly renewed, and we must admit that those circumstances must have a decided influence on the results, seeing that a current of water rapidly diminishes certain calculi.

Again, in most of the experiments, only fragments of calculi have been subjected to the action of Vichy water—a circumstance which would be favourable for their destruction. It is not, then, in facts of this kind that we should find a solution of this important question. We must now seek whether observations collected from patients will assist in resolving it.

Our criticism should bear principally on two points:—first, the state of the urinary calculi expelled from patients during the use of Vichy water; secondly, the changes which have occurred in the health of the persons subjected to the use of those waters.

Relative to the first point, M. Petit has sent us a great number of fragments of calculi which have been spontaneously expelled. We ought to state

that all those fragments bear evident traces of alteration; their surface is unequal, porous, similar to that of concretions left in the Vichy water. It is, therefore, rational to conclude that they have undergone a certain alteration in the bladder, and that the diminution of bulk they have suffered has favoured their expulsion.

The second point offers the truly important portion of M. Petit's memoir. For the purpose of putting the Academy in a position to judge precisely of the subject, we would present here a complete exposition of all the facts which the author has collected, did it not carry us beyond the proper limits of a report. Nevertheless, as these facts serve as the principal basis for the conclusion of our report, we must try to offer an analysis, by ranging them in several groups, from among which we shall select some examples proper to make them known.

In the first category are found the patients who, according to M. Petit's idea, were simply affected with gravel; their examination would not therefore in any way throw light on the question we are considering.

The second category contains the details of cases in which all the rational symptoms of stone were present, and in which these symptoms have completely disappeared after the expulsion of the lithic detritus. But catheterism was not employed, either before or after the treatment. Now whoever has observed a certain number of calculous patients may doubt as to the actual existence of urinary calculi in the patients of this class, and it may be objected to Petit that those persons only suffered from gravel. We know, in fact, that the pain caused by pieces of gravel depends much upon the sensibility of the individual, the state of the urinary passages, and the habitual contraction of the bladder, rather than upon the absolute bulk of the calculus.

To the third class belong patients who have been sounded before, but not after, the treatment. We think it useful to cite here some of the observations contained in this category. M. Delong Perrier, aged 51, suffering from vesical discomfort for two years. In 1836 he was sounded by M. Leroy d'Etiolles, and a small calculus was discovered, which seemed to be adherent near the

neck of the bladder. The treatment was commenced on the 19th of June. On the seventeenth day a calculus of the size of a lentil escaped; since that time the patient's health is completely restored. Though the expelled concretion was remarkable for the disposition of its layers, it might be mentioned that it was a particle of gravel, and not a calculus.

M. Larigaudie, after having passed gravel, suffered for two years under all the symptoms of vesical calculus. M. le Dr. Montelon, his nephew, sounded him, and discovered a calculus of moderate size. The 5th of August, 1837, he began to take the waters of Vichy; after twenty days many parcels of calculi were expelled at several times, and his health was completely restored.

It is to be regretted that the patients were not sounded after the cessation of the symptoms. It is known, in fact, and one of the patients mentioned by Petit was a proof, that the symptoms of stone may disappear for a time, though the patient continues to carry a stone in his bladder. However satisfactory this observation may appear, it is impossible to affirm that M. Larigaudie is entirely relieved of his infirmity.

In the fourth category are contained those patients who have been sounded several times, both before and during treatment—a class most important in their results, as they enable us to judge definitively the question. Unfortunately the number of those patients is not great, and several of them are still under treatment. We think that all the facts contained in this class should here be analysed.

No. 1. M. Petit refers to a fact that M. Genois communicated to the Academy of Medicine the 25th of July, 1826. A man of 52 experienced the symptoms of stone; he was sounded, and several calculi of the size of a hazel-nut were discovered. After using for a month an alkaline drink, he voided eight calculi of the weight of four grains. The pains disappeared, and he was again sounded, but no calculus could be found in the bladder.

No. 2. M. Valerix, aged 50, having before passed gravel, presented during the last two years the symptoms of stone. MM. Beudant and Petit ascertained, by sounding, the existence of a small calculus. The treatment by the

Vichy waters commenced on 16th July, 1837. The 6th of August M. Valerix passed a fragment of calculus; his health improved, but the cure was not complete. The patient again took the thermal waters. In 1838 a new calculus passed. M. Beudant sounded the patient on the 10th of September, and could discover nothing in the bladder. In the two preceding cases the cure cannot be denied; but it may be said that the concretions discovered by sounding, and whose precise volume is not indicated, were rather gravel than urinary calculus.

No. 3. M. Fournier, of Mayet d'Ecole, came to Vichy on the 3d of July, 1838. Symptoms of stone had existed for two years. He was sounded by MM. Petit and Senelle de Nevers, and a large rough calculus was discovered. M. Leroy passing through Vichy on the 9th of August, sounded the patient, and found a calculus of the size of a large walnut. Up to the 15th of September he passed a large quantity of gravel. At that time his health was so satisfactory that the cure appeared complete. To dissipate all doubts, M. Fournier proceeded to Paris, to be again sounded by M. Leroy, who found the stone, but it slipped, and he had much difficulty in finding it again. It appeared to him to have diminished in size. In a letter recently written by the patient, he says that since his return to Mayet d'Ecole he has constantly taken the bicarbonate of soda, that he has not passed any more fragments, and that his health is excellent. I can bear, he says, the roughest carriage passing swiftly as well as I could at twenty-five, and also a trotting horse.

If this fact leave doubts as to the complete disappearance of the calculus, no person can doubt that its bulk has considerably lessened.

No. 4. M. Pirel, of Job, near Ambert, came to Vichy in 1838. M. Petit discovered a large calculus. After twenty days of treatment the patient returned to Clermont, where M. Fleury sounded him, and discovered a calculus, which appeared to him very hard, and rather large. M. Fleury said it seemed to him impossible that the Vichy water could dissolve so large a calculus. Pirel returned to Vichy at the end of July. Early in August M. Leroy seized the calculus with Heurteloup's forceps; and having taken it by two diameters,

found that in one direction it measured an inch, in the other five lines. The calculus was a little bruised by the instrument, and some small fragments escaped. M. Fleury sounded the patient again on the 2d of November. The surgeon was obliged to make a careful search for the calculus: it appeared to him to measure ten lines, to be of a cylindrical form, and about the size of a stick of lunar caustic. M. Fleury, in a letter to M. Petit, expressed his astonishment at the change, and said that his incredulity about the Vichy waters was much shaken. Pirel is still under treatment.

No. 5. This is the place to speak of a patient upon whom the attention of the Academy has been directed by MM. Segalas and Petit.

M. Jullien, aged 50, had long felt symptoms of stone: he could no longer proceed on foot from the Hôtel-de-la-Monnaie to the Palais-Royal, without much suffering, without frequent want to urine, and without passing bloody urine. For more than a year he has entirely abstained from riding in a carriage. For some time he has been suffering under aggravated catarrh of the bladder. In July last M. Segalas discovered a urinary calculus; he was treated by Vichy water, brought to Paris, which he continued to use until the end of September.

At the beginning of October he was again sounded for the purpose of ascertaining the size of the stone. It was several times seized by M. Segalas, and the blades of the instrument indicated that it was somewhat more than an inch long.

The treatment of the Vichy water was continued, but there has been no further examination. As to the symptoms they are much less intense. The catarrh has almost entirely disappeared, walking exercise is no longer painful, the patient easily bears the jolting of carriages on rough roads, and no longer passes bloody urine. These particulars have been furnished by the patient himself. I ought to mention that I have since ascertained that symptoms of stone are again developed. When he begins to urinate, the jet is at first free and strong, at the end it becomes small and difficult; the patient then feels a pain at the neck of the bladder, and if he proceed to sit down, pressure on the perineum is painful, and it

obliges him to sit on one side. Usually this sensation does not continue beyond one or two minutes; one day, however, it happened that the jet was completely interrupted, and that the painful sensation, accompanied with retention of urine, continued for four hours. These symptoms were probably the result of the momentary introduction of the stone into the neck of the bladder; and, in that case, it may probably denote a sensible diminution in the volume of the stone.

6th. We may range with the preceding facts an observation which came under the eyes of the Commission, and of which the result seems of great importance. A man named Lhumeau, aged 81, deaf and demented, was lithotritied at the Infirmary of the Bicêtre in June 1838. In two sittings M. Guersant relieved him of a very friable calculus of the ammoniaco-magnesian phosphate. He returned to the Infirmary on the 3d of December with a contusion of the hip. The bladder was examined by one of the members of the Commission, and a calculus, of eight lines in one direction and six in another, was discovered. The patient was treated with Vichy water, taking a quart daily up to the 11th of January, when he died in a state of senile adynamia. I have the honour to put before the Academy the calculus taken from his bladder after death; measured with the same instrument it presents a diminution of a line in its two principal diameters: its surface is remarkable for its numerous pores, which render it unequal, and which attest, in a striking manner, the solvent or disaggregating action of the menstruum in which it has sojourned.

What conclusions are we justified in drawing from the foregoing facts? We must at first remark that there is not one of those facts which demonstrates peremptorily that a calculus of a certain size has been entirely destroyed under the influence of the Vichy water. In fact, this demonstration will not be acquired until a calculus, the size of which shall be ascertained before the commencement of treatment, shall have disappeared, and the sound shall indicate that the bladder is perfectly free: now it is evident that none of the preceding facts accomplish those conditions.

But if there be no certainty, there is unquestionable proof of the action of

those waters upon calculi; these proofs are acquired by the change produced in urinary concretions passed by persons during the use of alkaline bicarbonates; by the diminution which many calculi have sustained, as shown by sounding, by direct inspection, by the presence of substances in solution, formed at the expense of new principles which the urine contains, and the elements of calculi with which they are combined: may I add, that the cessation of the symptoms of stone, in some patients, permits us to suppose that, in them, the destruction has been entire, and that there was only wanting to the demonstration the examination of the bladder.

Still, before putting our conclusions into shape upon the preceding facts, we think we ought to try to estimate the value of some objections which have been made to this mode of treatment.

1st. No one is ignorant that, as a consequence of the prolonged sojourn of a stone in the bladder, there are developed more or less serious lesions of the urinary organs. I do not seek to lessen the force of this objection: yet it may happen that, under the influence of Vichy water, those disorders in the urinary organs may not be developed: it may even happen that lesions, already developed, will undergo a beneficial modification. The theory generally admitted is not perhaps applicable to the facts which we are now examining; for a new element introduced into the data of the problem may change the solution.

The advantageous change which is manifested in the quality of the urine, when preparations of the bicarbonate of soda are used, has excited the attention of most medical men. Generally a prompt diminution, and often an entire disappearance, of mucus and pus which the urine sometimes contains, is the result, the urine becoming limpid and losing its foetidity. It may be added, that patients, in whom a large calculus has been found, have not experienced those distressing symptoms which theory might have taught us to fear; so far from it, that those among them who had the most painful symptoms of stone, and whose urinary organs were in the worst state, at the commencement of the treatment, have experienced a marked alleviation under the use of the Vichy water. Of this number is a

patient now in the Hôpital Beaujon, upon whom the members of the Commission have been able to observe a decided improvement in health during the treatment. The facts which offer an opposite result are few. MM. Segalas and Leroy d'Etiolles have each mentioned to the Academy a single example. M. Petit has attempted to explain the unfavourable result in these two cases, by an insufficient treatment, and by previous organic lesions of the urinary organs, which the waters of Vichy could not cure; but although we may not agree with him in opinion, we cannot the less admit, as a general proposition, that during the administration of those waters, the health of calculous patients improves; and that the urinary organs do not suffer any damage which would render the ulterior recurrence to cystotomy or lithotrity more hazardous than they would otherwise be.

Second objection. That so far from causing the solution of calculi, it is to be feared that, in some circumstances, Vichy water may provoke the precipitation of the elements of the urine. These were the objections of MM. Civiale and Leroy d'Etiolles. *First*, certain deposits of urate of soda. *Second*, the precipitation upon the nuclei of uric acid, of phosphate of lime and ammoniaco-magnesian phosphate. *Third*, the precipitation of carbonate of lime upon calculi of oxalate of lime. *Fourth*, the formation of a gravel of carbonate of lime and urate of lime.

It is for chemists to appreciate the theoretical value of these objections. We do not think we ought here to open the discussion which this point of science requires. We limit ourselves to the statement that each of these arguments has been refuted by M. Petit in a letter which was read before the Academy, and in which the best judges in the Academy conceived he had victoriously combated the assertions of M. Leroy d'Etiolles.

As to the facts upon which many of the preceding objections rest, they must be excessively rare, and we regret that M. Leroy has not addressed to the Commission the very curious fragments which attest, in the alkaline bicarbonates, properties entirely opposed to those which are generally admitted.

General conclusions.—From the facts, reasonings, and experiments, exposed

in this report, we draw the following conclusions:—

1st. Urinary concretions are acted upon by the urine, when it becomes alkaline, under the use of the thermal waters of Vichy, taken internally, or used in baths.

2d. It is not proved that urinary concretions of so considerable a size as to constitute true calculi have been entirely cured by those waters.

3d. This cure, however, is by no means impossible; indeed it presents great probabilities.

4th. The question can only be determined by direct experiment.

5th. The experiment may be made without danger.

SOME
PHYSIOLOGICAL REFLECTIONS

ON

THE NATURE AND TREATMENT OF
ANGINA PECTORIS,

AND OF ANALOGOUS STATES.

BY T. WILKINSON KING,

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[Concluded from page 61.]

[For the London Medical Gazette.]

A summary of former views. The general actions of remedies—physical, nervous, humoral—with reference to anginal attacks.

WE have had no intention to treat of angina in a systematic manner. We have adopted simple and specific views bearing on definite sets of cases. The reader may compare these opinions with what else he reads, and the observer with what he sees; and, so far as theory coincides with facts, we conclude they may safely arrange their plans of treatment. The chief end of the following pages will be to offer some general therapeutic reflections in conformity with the preceding opinions: not to recommend new remedies, but to suggest a reasonable basis on which to found the use of the more generally accepted modes of treatment.

For a summary of our reflections on the disordered heart, we have noticed—

1st, The heart suddenly failing from deficiency of its nutrient blood, whilst still possessing a fair form.

2dly, The organ not dilated by ex-

cess of blood, but reduced to the greatest tenuity, and so becoming suddenly overwhelmed, or incompetent to send blood to the head, &c.

3dly, The case of angina in the more hale, and the probable states of correlative parts; and,

4thly, In the general course of our observations we have adverted to the probable circumstances of mixed cases.

We have seen that each part of the thoracic circulation is at times, and more or less singly or especially, oppressed, or unable to resist and act, and that the conditions are dependent on a variety of outward or incidental circumstances, which are evidently capable of aggravation or alleviation accordingly as they are rightly understood. We would ask, are not these things deserving of further consideration?

We have seen that angina, or palpitation, or dyspnoea, may be induced by exercise or repletion, or particular postures; and that the affections may be at times removed by simple attention to the exciting cause, whichever it be; and we repeat, that a want of attention to the foregoing views must render all other conclusion both fallacious and mischievous. We hope it is clear, as a basis principle in studying the influence of every particular remedy, that we have to see that the causes already spoken of are first duly appreciated, or, at least, that they are not disregarded. We have seen also that the simple physical explanations which have been principally contended for do not exclude other considerations; and we shall have to shew that the employment of remedies affords just and necessary grounds for the introduction of other principles. Our object, however, will still be to state most particularly the dependence of physical conditions on other and more animal or vital processes. The freer discussion of the latter, after referring to them as much as we consider indispensable, must be deferred to a more suitable opportunity.

Without delaying to discuss or illustrate the assumption, we shall lay it down as a fundamental truth in therapeutics, that remedies may act as mechanical agents, or humoral or nervous. We shall admit that this assumption may need both modifications and additions, but shall proceed with it as a law as far as we deem it available and just.

We hinted in the opening of these papers* at a similar fundamental doctrine in physiology and pathology, but it is evident that hitherto we have almost exclusively attended to physical circumstances, and it might almost seem out of place to enter upon other topics even in relation to remedies. It will, however, be very necessary to shew the dependence of the physical changes on other influences; and for this reason we must take leave to advert generally to the action of medicines.

It will scarcely be necessary to shew what is meant by physical, humoral, and nervous agencies; but, for a passing explanation, we may adduce the influence of an effort, a vegetable poison, and an alarm, as examples of three different modes of acting on the body; or, again, the sudden absorption of drink may distend the vessels, deteriorate the blood, or excite the brain, &c.

It cannot be necessary to say that a particular medicine may have more than one mode of action. Whatever it may be that a purgative removes of peculiar matters, the quantity of fluid excreted is a mechanical reduction of that which fills the blood-vessels. A narcotic acts on the brain in a particular manner, but it also produces a general disturbance, retarding the action of the excretory organs and the heart, and increasing the warmth and capillary fulness.

Considerations of the physical influence of remedies.—The heart acts most easily on a moderate quantity of blood, and even in its most healthy state it is susceptible of oppression by excessive repletion, as also by wine, and it is subject to almost instant failure by defective supply.

Depletion acts on the brain, and retards respiration; while it also relaxes the muscular tension of all parts.

Very early, however, it diminishes the fulness of the heart, as well as of the rest of the vascular system. Subsequently it leads to a free and heterogeneous absorption of fluids, by which the blood becomes more watery, &c. The heart receives a deteriorated nourishment, and becomes feebler, and still more subject to the influence of, perhaps, increasing accumulations of

fluid within it. This is hæmorrhagic palpitation.

The actual loss of blood is but slowly repaired, and the deterioration of the circulating mass, after repeated venesections, is great, and often long-continued.

Considering the quantity of fluid removed by a successful blistering, the loss of nutrient matter is probably not very great; yet doubtless it is not always to be disregarded.

The proportion of fluid and of animal matter abstracted from the vascular system by the use of a purgative, must evidently vary considerably according to the force with which the medicine acts, and the state of the system acted upon.

While the elimination of water is generally considerable, the loss of the solids of the blood may be at times great.

The freedom of the chest, &c. by the emptiness of the belly, forms an independent reflection.

The agency of diuresis is probably connected very little with the removal of nutrient matter from the blood. The salts excreted by the kidney may be chiefly products of actions in different parts of the system; and in general the water may be considered as the vehicle. On occasions, however, the mass secreted cannot but be a material relief to the circulating system.

The action of diaphoretics involves the liberation or excitement (as it is said) of the capillary vessels over a large proportion of the body; and in this it resembles the influence of antispasmodic medicines. The warmth and redness, and even fulness, that are widely extended, cannot but diminish a local accumulation, as in the heart, or lungs.

The doctrine implied by the term *antispasmodics* is too complicated a matter for us here to attempt to unravel. If we are enabled to point out a few of its simpler bearings on the subject before us, the service may not be unacceptable to therapeutics in general. It is, of course, evident that we pay little regard for the present to the specific idea of spasm. The great and diffused influence of stimulants, tonics, and narcotics, as well as of the more especially esteemed antispasmodics, will not allow us to think that the relaxation of local spasm is their ex-

clusive or unmixed effect. The remedies for spasmodic asthma are in turn equally efficacious in removing sudden toothache, or mental excitement.

Toothache may be pretty suddenly relieved by an unusual dose of wine; and we cannot doubt that general freedom of all the capillary actions is among the chief effects of the remedy, as it is also a very reasonable explanation of the local relief. The same may apply in the case of an over-full heart, or of a turgid bronchial membrane, if not inflammatory. In the case of syncope, brain excitement, muscular tension, and general compression of blood-vessels (as by contraction of the abdominal parietes) will, at least in part, explain the operation of wine in restoring the colour of the face, and the play of the senses.

In the capillary circulation general nutrient matter may predominate; and, in another case, the particular stimulus of some one excretory organ may prevail, or such an organ may be alike acted on for nourishment and for secretion; and, all other things being equal, we ought to expect that an over-excited secreting action should be attended with a too free nutrition of the part; and this is hypertrophy, whether sudden or slow, inflammatory, or only in the way of the most ample healthy development.

What are called stimuli induce enlargement of capillaries, and accelerate the functions of these vessels, whether general or local, nutrient or secretory.

We may suppose that increased injection of the lungs leads to increased respiration; and with respect to the increased frequency of the pulse (omitting the possible concomitant of material additions to the circulating mass), we must remember that the muscular system is in a state of excited tension; and that the heart may participate in the same, whether from exalted nutrition or nervous influence, or both. We have formerly shewn that general muscular tension is opposed to the quiescent state of veins and arteries, &c. &c.

The specific influence of narcotics in relieving certain states of asthma is well corroborated; and our own experience has furnished us with good proofs of the same. We venture to apply the same explanation of their use in angina as in dyspnœa. After a moderate dose, a sense of fulness or

heaviness is noticed in the limbs and head, a general increase of warmth, and, with small assistance from diluents and a warm bed, a degree of diaphoresis perhaps.

The general arrest of secretions which opium produces, induces finally an opposite action. The peculiar stimulus of each excretory organ is accumulated by retention, and its proper and salutary excitement becomes irresistible. This may be the opium-eater's period of relaxation and depression, unless it be, as in the case of the spirit-drinker, that with habit the natural functions are only maintained at *par* by the artificial stimulus; and that in the intervals of the unnatural doses they fall into a state of delay and obstruction.

The few drops of laudanum habitually taken by many who are affected with chronic diseases, as cough, pains, or only sleeplessness, are too necessary to their comfort to be omitted with impunity, however insignificant the quantity; but it does not appear to us that nervous influence is the only means through which relief is obtained. There is no reason to deny that the material is every where circulated, and a general equipoise of activity promoted, by which (and at times most particularly) an oppressed or feeble organ may be very happily relieved—as, for instance, the bronchial membrane, the meninges, or rheumatic limbs, or even the cavities of the heart.

The satisfaction of the wine-drinker, or the opium-eater, or even of the tea or coffee-drinker, are not to be accounted for without including the general relaxation or freedom of the capillary circulation, and the easy additional play of many functions, mechanical, chemical, and vital. Digestion, circulation, reflection, respiration, nutrition, and secretion, are all at times facilitated; and the sense of life, youth, and vigour, are proportionably manifest.

The sense of lightness and joyous ease produced often by the warm-bath, or shampooing, as also by the advance of spring, or on approaching the warmer climates, are not far from intoxication; and so also the exuberant spirits of the youthful heart*.

* The consequence of the easy play of all organs, with respect to the acting centre of the circulation, is expressed by the poet as it was doubtless felt—

“My bosom's lord sits lightly on his throne.”

Warmth, rightly considered, is a grand agent in the animal economy. As in chemistry it is an index of the activity of molecular changes; and though the heat is essential to the very subsistence of the textures, the changes by which it is eliminated are to the full as important.

A certain degree of cold to any considerable part of the body retards the functions of the whole capillary system; and this of itself may amount to oppression, as in the chest*, or any feeble organ. The result may be a simple and general reaction, or fever with inflammation, when a susceptible part, as the bronchial membrane, is the first to suffer.

Of the action of remedies through the nervous system.—It is natural to expect that much difficulty will arise in the course of any endeavour to estimate the influence of the nerves on a particular organ, whether in the way of health or disease; but with respect to the heart, as to a given set of capillary vessels, its state of nutrition and consequent power of contraction, as well as the peculiar degree of distending force, must always be taken into the account. And we have this constant suggestion before us; that the more palpable circumstances of a case are deserving of attention before those which are of necessity invisible, and promise long to be more doubtful.

We have noticed the influence of the nerves on the vascular system through the voluntary muscles of the body; but we must still suppose that the nerves of the heart, like those of all involuntary muscles, are essential to the well-being of the contractile tissue. Again, as respiration depends on the brain, so are the right and left heart respectively dependent, for unobstructed play, on a due supply, seeing that the pulmonary circulation depends on the respiration for its continuance: and even the heart is the better able to act when its nutrient blood is well aerated and freely supplied. And, in like manner, the nervous system facilitating both voluntary and involuntary functions, the circulation is made easy, and the play of all secretory and depurative organs, as well as the assimilative, is rendered more healthful and complete.

* The sudden forced inspiration in cold bathing, is rather, I conceive, the effect of great afflux to the right heart and lungs.

The account or theory of *humoral agencies* may seem still uncertain, but the facts of a free or deficient digestion, of excited or arrested excretory functions, and of medicines imbibed or injected into the blood-vessels, and having both local and general influences on capillary actions, are not doubtful things.

For the present we shall suppose that, besides what is physical and directly nervous, much of the remedial agency to which we have adverted is the effect of the blood and its contents upon the capillaries and the individual organs which they permeate. The nourishing of each part produces a proportionate deterioration of the blood, and such deteriorations afford the natural stimuli to the various series of secretory or depurative organs; *cæteris paribus* the nutrition of a part, and of necessity the waste of blood, is equal to the activity with which the part has been exerted*.

Whilst excretions depurate and consume the blood, and the nutrition of all parts prepares matters for elimination, there are various organs whose sole office seems to be rather to perfect certain elements of the blood. We refer to the thyroid, the thymus, and the spleen, &c. These we have been accustomed to speak of as organs of perfective assimilation†.

These opinions we hold to be among the settled and basis notions of humoral pathology; but we do not propose to dwell upon them in this place.

With reference to any further illustration of humoral remedies, what we have said of medicines generally may at present suffice; for, besides our more direct remarks, it must be manifest enough that the freedom of the digestive or excretory functions tends to strengthen, or excite, or ease, the circulation, by affecting the quantity or the quality of the blood in a very great variety of ways.

* It is a pleasing consideration of contrivance or adaptation to observe that the activity of a secreting organ depends on the quantity circulating of the matter it is destined to secrete, which is, at the same time, its peculiar stimulus; and this is an available reflection in pathology and therapeutics.

† It seemed almost indispensable to advert to this view as an important part of the doctrine of humors. The inquirer may find a more systematic exposition of the opinion in the second volume of Guy's Hospital Reports, in reference to the thyroid gland, and in the fifth volume in connection with the absorbent system.

After what has been said, our views of the principles of treatment for anginal affections will scarcely be doubtful. Minute particulars could hardly be discussed with profit without detailing individual cases, which we hope is not necessary for the explanation of the main objects of this essay.

Some general remarks yet remain to be made; but it is an useful reflection to enforce here, that the most established remedies for individual cases are still to be esteemed foremost, and that they ought to be found in theoretical agreement with the opinions we have advocated, if the latter are worthy to be trusted.

In the attack of angina, as during some other disturbed conditions of the chest, the first object should be to place the sufferer under the most favourable circumstances *to recover himself*. His posture, his pulse, his aspect, and the nature and period of his last meals, are to be well considered. Whatever the form of the disease, the indiscriminate use of remedies of almost innumerable kinds which have been recommended is much to be deprecated.

Bleeding will be very rarely required; yet, if the disorder be of the most active form, and brought on by exertion, and the patient have yet to walk home, or the absorption of aliments be still going on, some relief to the fulness of the blood-vessels will be desirable.

The free action of the surface of the body cannot but relieve either a feeble or an over-acting heart, or too turgid pulmonary capillaries; but surely there can exist no ease*, differing from that of syncope, in which hurrying on the venous blood by frictions, &c. can relieve the chest.

Rest is the first thing; and where there is no tendency to faintness, the gravitation which sitting affords (as in an easy chair, the muscles being unemployed,) will be a source of ease to the chest.

The active plethoric case will be the safer for venesection; for by this means all the natural functions, and the subsequent action of remedies, will be facilitated.

The prospective treatment of persons affected with anginal disorders is, for the most part, satisfactorily described

* We desire to apply this opinion to the practice of the resuscitators with marked disapprobation—as in the asphyxy of drowning.

in books; but we find occasion to regret that partial opinions of the causes of the different affections have led particular authors to claim especial attention to the state of individual functions only. It is true the remedies suggested cannot fail to affect the system more or less generally, and equally certain that the aggregate of the functions are required to be attended to—to be kept in a state of easy play and equal excitement, as far as may be: and these are the means to obviate disorders, as they are those which place the system in the most favourable condition to correct or counterbalance the defects of any one part.

The remedies for the cure of angina, as described in books, must not be allowed to form either a basis of reasoning as to the nature of the diseases, or a foundation of reasonable therapeutics, without very careful investigation. No doubt an easy digestion, and the gentle equiponderance of all the functions, which attention to diet and exercise, air and temperature, may assist to establish, are very important points. Again, alteratives and tonics, and the exclusion of all disturbing causes, must be also essential aids in promoting or maintaining the natural play of the functions generally; but it is too much of the dyspeptic theorist, or the sympathetic, to ground, without hesitation, his pathological doctrines, or therapeutic reasonings, upon so uncertain a footing as the result of treatment alone.

* * We have made no direct mention of the pulse in angina, for the reason, chiefly, that the cases of the affection differ too widely to be justly spoken of at the same time. It is clear that, in accordance with our views, as with the truth, the pulse should evince different characters in different cases, in successive attacks, and even different stages of the same attack. It need not evince any disturbance whatever.

PUERPERAL CONVULSIONS.—USE OF THE VECTIS.

To the Editor of the Medical Gazette.

SIR,
THE following concise detail of a case in midwifery, accompanied by violent convulsions, is at your service for publication. I have retired from the general

practice of my profession, from the impaired state of my health; but this summer, when upon a visit to my son, Dr. George Morley, of Swinderby, near Lincoln, I was sent for (July 14th) by Mr. Johnstone, of Bassingham, to consult upon an extraordinary case of midwifery.

I had not been in the patient's room two minutes, before she had a return of a convulsive fit, and of the most alarming character, accompanied by gnashing of the teeth, foaming at the mouth, blueness of the countenance and hands, and requiring several persons to keep her in bed. We immediately held a consultation, and decided the first step taken should be to bleed her, which having been accomplished, we waited for the result; and in less than ten minutes a fit returned, which, though truly alarming, was not of so violent a character as the preceding one. Under these circumstances we thought it not prudent to proceed to delivery by artificial means, until we had given further time to see what nature would do. My arrival at the patient's house was between eight and nine o'clock in the morning; and ten o'clock having arrived, the convulsions still continuing, and there being no prospect of a delivery from natural efforts, we concluded that the most judicious mode of proceeding, with a view of saving the life of both mother and child, would now be to deliver by artificial means; and for this purpose Mr. Johnstone placed the case solely in my hands.

I immediately applied the *vectis*, and in about three quarters of an hour I effected the safe delivery of a living child. Before this was accomplished, I had informed her attendants and relatives that, in all probability, the convulsions would continue after the delivery of the child, which was the case, but in a greatly mitigated degree. Our patient was totally insensible at the time of delivery; and continued so several succeeding days. By the subsequent judicious treatment and diligent attention of Mr. Johnstone, both mother and child, at the end of the month, were as well as if the case had been of an ordinary character. The treatment mainly consisted of the occasional use of the catheter, enemata anodynes, with cold applications and blisters to the head; for we

were of opinion the proximate cause of the convulsions was an undue pressure upon the brain.

Upon my return to Hull, I referred to Dr. Smellie's publication on Midwifery, and I found four cases detailed by him attended with convulsions, one of which proved fatal, which the Doctor imputes to procrastination, occasioned by the folly of interference on the part of the relatives. In my younger days I had read Dr. Smellie's work upon Midwifery; but his mode of practice did not recur to me in the above recited case; and if it had, I am pretty sure I should not have pursued it; for the Doctor preferred turning and delivering by the feet, even when the presentations were natural, instead of using the forceps. (As the *vectis* is not mentioned, probably in his time that very useful instrument was not discovered.) In a natural presentation a case may occur which would sanction turning, and delivery by the feet; one has occurred to me during my residence in Hull, the placenta having been placed over the os uteri, with strong morbid adhesion, attended by profuse flooding. In this case I effected delivery by turning the child, and delivering by the feet; and mother and child went on well.

But in the case of convulsions, it is my opinion that such artificial means should be used as are least likely to add to the cause of the convulsions, which I consider to be an undue pressure upon the brain: and I believe that a careful and judicious application of either the forceps or the *vectis* will effect this: therefore, in my opinion, the application of either the one or the other is preferable to turning and delivering by the feet; I mean only when the presentation is natural. Before I conclude I will mention that, in using the *vectis*, in the above recited dangerous case, I made no extracting power whatever, only when the natural pains returned: thus there was no violation of nature's rules; only an aiding of them. During the convulsions I made no effort. As the case terminated so favourably, both to mother and child, I think this fact will bear the repetition which I have just given to it.—I remain, sir,

Your obedient servant,
JOSEPH MORLEY, M.R.C.S.

Hull, Oct. 31, 1841.

EXCITED INTELLECT AND MENTAL DELUSION.

To the Editor of the Medical Gazette.

SIR,

IN the *Times* of the 12th inst., in the police reports, is mentioned the case of Charles Forester, who was brought before the magistrate of Hatton Garden for shooting at a policeman. The report stated that Forester was an experimental chemist, aged 34; and upon the testimony of Dr. M'Crea, it must appear, was of unsound mind.

The subject of insanity is one of great interest; and in these days of increasing frequency of the disease, is of great public importance; which I trust, sir, will plead my apology for addressing you on the present occasion, with a view of drawing the attention of the profession to the indications of treatment in the like description of cases, and to the simple means successfully pursued in a case which came a short time ago under my observation; and with the view, also, of directing the attention of the public to the importance of an early attention to the progression of the symptoms of an excited intellect—the parent and precursor of insanity—when the disease may be averted, I believe, by very simple means, if carried into timely practice. Forester was said to be an experimental chemist of considerable talent and ingenuity; and who, some months before, had secluded himself from society, had locked and barred himself up in a place for the purpose of carrying on his experiments, and who carried loaded pistols about his person for his protection; from which it is evident that he was then the subject of an excited imagination, as well as of such gross delusion, that he was unquestionably of unsound mind; and as such should have been treated by his friends at the time.

The statement abundantly proves to us that the man's mind was devotedly intent, or abstracted, upon some purpose connected with his experiments and seclusion, and which had produced the usual effects of too intense application of the mind—cerebral excitement, and its insane manifestations, delusion.

The effect which ordinarily ensues upon over excitement of an organ is determination of blood to the part; and

the organ here excited being the brain, had developed, by its continuance, arterial excitement in that portion of the brain in which the faculty exercised resided, or inflammation, or a condition of the blood-vessels of the part affected bordering thereon; and thus their symptoms and progression—an over susceptible and excited imagination terminating in delusion.

Determination of blood to the head, terminating in insanity, is a common effect of intense excitement of the mind, whether gradually or suddenly induced. Cases of sudden invasion of insanity from great excitement, as extreme joy or fright, are of frequent occurrence; and madness from unrequited love, or religious devotion, are not less so; and that this results from determination of blood developing arterial excitement of the part, is, I am of opinion, clearly manifest by the excitement and delusions evinced in ordinary cases of fever with cerebral determination—or brain fever, as it is commonly called.

The insanity of Forester, and of the late very talented the Rev. Mr. Irving, the founder of the Irvingites, are cases of a parallel description: and if such cases be timely treated accordingly—as a physical ailment or inflammatory condition of the brain—are, I believe, as readily curable as other inflammatory affections; and nearly so as the ordinary delusions of fever. But, like other inflammations of a like organic description, they are not so when permitted to become deeply rooted or chronic; when structural derangement—softening of the brain, or other disorganizing process—becomes established in the part, and its consequence, confirmed lunacy, follows.

The inflammation which attends fever when the head is affected, is of the membranes of the brain principally, and hence the pain of the head which attends it; but pain, I believe, is little felt when the substance of the brain is affected, further than by the implication of its membranes. That we must not wait for pain being complained of, as an indication of inflammation, or determination of blood to the brain, nor expect to find an excited state of the general circulation, as evinced by the pulse; on the contrary, I believe, the pulse will more frequently be found weakly, irritable, or oppressed.

Giddiness of head; deafness, or loss of memory; moroseness, or irritability of temper, and sleeplessness at nights; a contracted pupil, heat of the scalp, constipated bowels, and defective secretion of urine, are more frequent concomitants.

The case is one of local inflammation, and confined, we may suppose, in monomania, to a very limited portion of the brain; and which, it is obvious, we can only reach, or but slightly influence by our remedies, like most other organic inflammations, save through the medium of the system at large. Hence bleeding, one of our principal remedies in inflammation, to effect it, should be copious,—*ad deliquium*: having recourse to it, not with reference to the state of the pulse so much as to the state of mental excitement or delusion evinced by the patient: following the general bleeding up by local, or employing this extensively when the latter is interdicted, by cupping at the back of the head, or leeches behind the ears and temples; and after this the continued application of cold to the head, with the occasional use of the vapour bath (a remedy of considerable importance), and active excitation of the bowels and liver: to which may be successively added, in cases where the excitement is considerable, the keeping the patient's stomach nauseated by a weak tobacco infusion, or solution of tartar emetic, with a view of diverting the patient's mind to the all-engrossing attention which attends feelings of sickness and personal ailment; following this up by local irritatives—as the constantly renewed application of a blister, or use of the ointment of emetic tartar. These are the means, aided by the necessary moral appliances to soothe and divert the patient's mind from his abstracting pursuit, which should be simultaneously and early resorted to; following them up, when inflammation of the organ may be supposed perfectly arrested, by constant exercise in the open air, the amusements of the field, or pedestrian travel; and a substantial, but not exciting, diet. In chronic cases, or a state of more confirmed lunacy, gentle salivation, succeeded by a succession of small caustic blisters to the scalp, with a seton on the neck, the occasional use of the vapour bath, daily relief of the bowels, conjoined

with sedatives and a substantial diet, appear to me the necessary expedients.

Insanity is said to be hereditary: it is so, as far as the disposition to the disease exists, but no further: and this disposition consists, I believe, in a preternatural weakness or susceptibility to determination of blood and arterial excitement, or inflammatory susceptibility in the lobes of the brain, wholly or in part; and, accordingly, were attention strictly observed in avoiding too early or intense application of the mind in the educating of the child inheriting such a disposition, as well as to the occupation of such in after life being directed to agricultural or other out-door or mechanical pursuits, and abstaining altogether from spirituous beverages, and every cause of excitement avoided—to which might perhaps, with advantage, be added the use of the shower-bath, and attention at all times to the bowels—we should seldom hear the melancholy relation, of several members of the same family being so afflicted.

I will now mention the case of a medical friend in which the following simple means, illustrative of these views, were very successfully employed. He is an intellectual man, which, in other words, is to say, that he is a man whose mind, if not upon the stretch, is constantly actively engaged. Thus devoted in getting up a course of lectures on a subject in which he felt great interest, he exhibited to those around him a good deal of irritability and delusion, in which state he went down to Scotland, but returned thence, after lecturing some time, in a much worse condition; exhibiting indeed a state now of positive insanity, inasmuch that he would, in a Christian spirit, pick up in the streets, and bring home to his wife, half a dozen prostitutes for her to take care of; and, on another occasion, he sold the coat off his back, having no cash about his person, to provide in charity for another poor destitute whom he found in the streets. After this he went upon business down into Hertfordshire, where, at two o'clock in the morning, he went to a cottager's house, which he managed to enter unknown to the inmates, went up stairs, and was discovered, by the squalling of the children, in their bed-room, endeavouring to pacify them, whom he had frightened by his entry. A friend was now obliged

to go down and fetch him home, and, on his return, it was advised that he should be placed in confinement: upon the subject of which his wife having called upon me, I expressed an opinion his case was still amenable to medical means, and, with her co-operation, I would first try what could be done. On his return from Scotland I had seen and advised him to lose some blood, and take a few doses of calomel and cathartic extract, and his wife urged upon him to do the same, but without effect: he would not admit that there was any thing the matter with him. I now provided her with a box of pills composed of calomel, aloes, and gamboge, and also with a few papers containing three grains of emetic tartar each. One of the latter I directed her to dissolve every morning in his coffee, which being done unknown to him, he was thus rendered very sick. She now urged upon him, seeing how bilious he must be—and sick he really was—to take two of the pills I had prescribed for him, which, when the sickness was at an end, he was prevailed upon to do, and was thus kept at home; and in this way he was physicked for three or four days successively, with some benefit. I now saw him, and knowing his reluctance to lose blood, and his great fancy for baths, I prevailed upon him to go into Argyle Street, and take one of Whitlaw's baths: this he did, and from which he perspired most profusely, and with so good an effect that he slept soundly the same night, which he had not done for some weeks before, and with such conscious benefit that he continued them by his own free will, till, in short, he became quite weak from their too frequent use, but with no return of his complaint. The violent perspiration which attended the use of the first bath, his bowels and biliary organs being free, completely absolved him from the delusion and excitement he had previously manifested, and he became now quite sensible of the folly he had been guilty of; and as, four years before, he had been under confinement for more than a year, in consequence of an attack of the same kind, and then had only got well after rambling over the continent of America and diversified pursuits, he expressed himself highly gratified at the relief he had now obtained.

In conclusion, sir, I have only to add that, in presenting these views to your readers, I can make no claim to originality, as they are as old as the profession; nevertheless, the physical condition of the brain in insanity, and especially in the early manifestation of the disease, at the present time I do not think sufficiently attended to; the moral means having, it would appear to me, usurped too exclusive a share of attention, to the neglect of the necessary medical treatment, to which alone very many cases, I am convinced, are amenable; and with this impression I am sure that I shall be excused intruding them upon their notice.

I am, sir,

Your obedient servant,

C. SEARLE, M.D.

Bath, Oct. 19th, 1841.

TWO CASES OF SYPHILIS,
TREATED BY MERCURY AND IODINE.

BY CHARLES DODD, Surgeon.

(*For the Medical Gazette.*)

To be able to confirm the observations of a professional brother is always a grateful task, more especially of one associated with my early life, and linked to me by the chain of old companionship. Impressed with this feeling I hasten to forward two cases to your valuable journal, confirmative of the observations, in your last number, of my old friend and fellow-student Mr. J. W. West, of Poole, regarding the good effects of the combined action of mercury and iodine in syphilis.

CASE I.—A young man of intemperate habits applied to me, July 10th, 1841, with two chancres, which he contracted several months before, and for which he had had no medical advice. They are situated just below the glans near the prepuce, attended with considerable surrounding hardness. Two days previously to his applying to me he had ridden twenty miles on horseback, after which a bubo made its appearance, which increased rapidly. Twenty-four leeches were applied within as many hours, and cold lotion used; he was freely purged in the first instance, and subsequently ten grains of Pil. Hyd. and half a grain of opium were given every night, and black-wash ordered to the sore. After the inflammation

had been reduced I endeavoured to disperse the bubo by blistering, and dressing the vesicated surface with the iodide of potash ointment (3j. ad 3j.) but failed; and on the 29th I opened it, and let out about two ounces of brownish unhealthy-looking pus. His mouth not being affected he was ordered to rub in Ung. Hydr. Fort. 3j. night and morning.

August 3d.—The bubo discharges a good deal; in other respects he is much the same: with the view of aiding the mercurial treatment he was ordered Potass. Iodid. gr. iij. bis die ex aqua.

10th.—Ptyalism came on very profusely to-day, and he was ordered to omit the rubbing in. The case proceeded very favourably under the same treatment. Discharge from bubo healthy.

29th.—The chancres are healed. For the last three days the appearance of the bubo has much deteriorated; the granulations, from being healthy and florid, have become pale and flabby; discharge brownish and fœtid. Upon inquiry I ascertained he had omitted taking the iodide of potash during that period; I ordered him to resume it, and the next day the ulceration in the groin put on its former healthy aspect, and in a fortnight was perfectly healed.

CASE II.—A gentleman applied to me, August 12th, 1841, with a chancre on the side of the penis immediately below the corona glandis; it was surrounded with considerable hardness, and discharged a good deal of healthy pus. Health good.

Pil. Hydr. gr. x.; Pulv. Opii, gr. $\frac{1}{4}$, o. n.; Lotio Nigr.

23d.—Gums becoming full and tender. The sore has increased in size, has a ragged uneven surface, and looks unhealthy, inclining to slough. Bowels rather purged.

Angr. Pulv. Opii gr. $\frac{1}{2}$, o. n.; Ung. Elemi.

26th.—Chancre much the same, with the exception of the circumference becoming more raised. Hardness rather diminished. The edges were touched with lunar caustic.

Cont. Pil. et Ung.

Sept. 3d.—Sore is much the same. Gums tender.

728.—XXIX.

Cupri Sulph. gr. ij. Aq. 3j. M. ft. Lotio;
Capt. Pilul. gr. v. o. n.

16th.—Chancre appears to have ulcerated more deeply; surface foul, and with brownish-looking pus; very indolent. Gums not so tender.

Ung. Hydr. Nit. Oxyd. 3j. ad 3j.;
Cont. Pilul.

23d.—The chancre remains just in the same state, not making the least attempt towards reparation.

Cataplasma Lini, o. n.

29th.—Chancre just the same. His health is beginning to suffer; has lost flesh, and looks out of health.

R. Ioduretti Ferri, gr. xv. Tinct. Aurantii;
Aq. Pur. aa. 3vi. m. capt. 3j. ex cyatho
Aquæ.; Cont. Pilul. Ung. Simpl. P. a.

Oct. 7.—Chancre much better; surface cleaning; healthy granulations forming, the sides contracting, and discharge greatly diminished. Health improved.

Contr. Guttæ et Pilul.

20th.—Sore quite healed, only slight hardness remaining.

Contr. Pilul. Omit. alia.

26th.—Cured.

I repeat I have no cases of secondary syphilis whereby I can confirm Mr. West's views, but I doubt not this treatment to be equally efficacious in that as in the primary stage, and the cases to be greatly benefited by the combined action of the two medicines, instead of the long courses so often enforced by the old remedy, mercury.

Northampton, Oct. 29, 1841.

CASE OF DIVISION OF THE HAMSTRING TENDONS.

BY WILLIAM COULSON,
Surgeon to the Magdalen Hospital, &c.

ALTHOUGH contraction of the knee-joint, from a variety of causes, is of frequent occurrence, the cases on record in this country, of the operation for the relief of the deformity, are very rare.

In the *Lancet* (June 23, 1838) a case is related in which the tendons of the semimembranosus and semitendinosus were divided by Mr. Liston. The report says that the knee-joint originally

formed a right angle; but that, with the use of crutches, the patient (a girl) was enabled, by the operation, to put her toes to the ground. When this account was published the tendon of the biceps had not been divided; but Mr. Phillips, in alluding to this case a twelvemonth afterwards, says that it was not successful.

The next case (probably the first as to priority of performance of the operation) is that by Dr. Little, first published in the *Cyclopædia of Surgery*, Part III. July 1838, and subsequently in his able work on *Distortions*, p. 266. The case was that of a girl, æt. 11 years: the disease of the joint had commenced between four and five years previously, and was attended with suppuration and caries. The tibia was partially dislocated outwards and backwards, the patella almost immoveably fixed on the external condyle, and the toes rotated outwards. At the time of the operation the leg was bent to a right angle with the thigh, and at the conclusion of the case the leg formed, with the thigh, an angle of about 160 degrees.

The last case is that recorded by Mr. Phillips (*MEDICAL GAZETTE*, July 20, 1839) of a female, æt. 29, who had suffered from rheumatism in both knees for two years and a half, during which time both legs became flexed on the thigh. The right knee was selected for operation; it was bent to an angle of fifty-five degrees: beyond that point extension could not be made, but the limb could be flexed until the heel very nearly came in contact with the buttock. The bony structures were unaffected. The biceps, the semitendinosus, and the semimembranosus, were divided, and the joint has remained extended since.

The following are the particulars of the case which came under my own care:—

CASE.—Catherine Elizabeth Tinch, æt. 11, laboured under a strumous affection of the left knee-joint when four years old. The articular extremities of the femur and tibia enlarged, but no matter formed. During the first two years a splint was worn behind the joint; but at the end of this time its use was discontinued. Soon afterwards the joint began to contract, and at the end of a year it was considerably bent, almost to the extent at which I first saw it; for, during the last three or

four years, the contraction had not increased. On Wednesday, July 22d, 1841, the child was brought to me on account of the deformity of the joint. I found the knee bent on the thigh, forming an angle of fifty-five degrees, and incapable of further extension, as the effort to extend the limb gave pain. The joint, however, admitted of slight motion, and it was a little enlarged from the effects of the previous disease. The child had a delicate appearance, but her health was not impaired.

On Friday, July 24th, with the assistance of my friend Mr. Gay, I performed the operation of dividing the hamstring tendons. The child was placed on a table, on her face, the thigh being held firmly by an assistant, whilst Mr. Gay extended the joint as far as it admitted. I then introduced a small tendon knife, with its flat surface between the tendon and the bone (as close to the former as possible), and turning the cutting edge towards the tendon with a serrated motion, divided the tendon of the biceps, and next, in a similar manner, the tendons of the semi-membranosus and semi-tendinosus. The division of the tendons on each side was followed by an audible snap. After this division had been effected, there were strong bands, especially on the inner side of the popliteal space, probably thickened fascia, which prevented the free liberation of the joint. I divided these bands, and the joint admitted then of considerable extension. Very few drops of blood were lost, and the child did not complain of much pain. A bandage was applied round the joint, and the child put to bed. On the following Sunday, about forty-eight hours from the operation, the limb was placed in an apparatus (modification of Macintyre's splint), with a screw joint behind, and a knee-cap in front. The screw was turned from time to time, until the upper and lower portions of the splint were brought into a line. The instrument was worn night and day for five weeks, at the end of which time the limb was quite straight. The limb is quite straight, and the patient walks about with the assistance of a stick, which she will soon be able to dispense with.

Of the operation little need be said; it is simple in its execution, not very painful, and free from danger. I may,

however, observe that, after the division of the tendons in the case just related (and, as far as my experience goes, this is often the case in the division of long-standing tendinous contractions in other parts), there were strong bands of fascia, which required division in order to insure the successful issue of the case.

I am not aware that any dissections have been published of the knee-joint in a contracted state; I avail myself, therefore, of the opportunity afforded me by Mr. Gay, of describing the post-mortem appearances which presented themselves in the following case, which came under his care.

W. R., ætat. 20, died of fever, at the Royal Free Hospital, in September 1840. He was born with the perfect use of his limbs; but, at the age of six months, according to his friends, from bad nursing, he lost the use of his right extremity. He did not, afterwards, show the slightest inclination to make use of that limb, and, to his death, walked upon the other leg, with the assistance of a crutch. At the period of his decease, the whole limb had the appearance of having wasted away, and was of a cadaverous hue. The knee was bent upon the thigh and fixed at about a right angle, and the foot presented the usual appearances of a talipes varus.

On making a post-mortem examination, I found the hamstring tendons were very rigid. I first divided them, but without producing any corresponding laxity in the joint. The subjacent textures were afterwards successively cut through to the capsule of the joint; still the joint remained firm. The joint was then laid open in front, by reflecting the patella, with a portion of its attachments, from above downwards and behind, by a transverse incision of the capsule. The amount of movement which was now gained was but trifling. The crucial ligaments were then examined, and found much contracted. *The posterior was exceedingly tense, thickened, and shortened**; and the principal, if not the sole obstacle, to the free movement of the leg. There was much adipose tissue within the folds of the synovial membrane, but the carti-

lages were sound, and lubricated with the ordinary quantity of synovial fluid.

The operation of dividing the hamstring tendons appears especially applicable to cases like Tinch's. No active disease had existed in the joint for years; there was no ankylosis, for the joint admitted of motion; and the only obstacle to its extension was the rigidity of the flexor tendons of the joint.

On the other hand, the operation seems to me to be inadmissible, first, when active disease exists, or has recently existed, or is likely to be reproduced by an operation; and next, where there is ankylosis of the joint.

CASE OF
PECULIAR DISORGANIZATION OF
THE FŒTUS IN UTERO.

BY DR. KNOX.

[*For the London Medical Gazette.*]

DEAR SIR,

DURING the winter session of 1840-1, my friend, Dr. W. Campbell, informed me that there had been brought to him that morning the uterus of a cow which evidently contained the remains of a fœtus, or at least the whole or some portions of a fœtus, which must have undergone some peculiar change. Being too much occupied at the moment by his professional engagements to attend to the preparing and examining the uterus and its contents, whatever they might be, he desired the boy who had brought it to him (a butcher's boy), to carry it to me: from him, therefore, I purchased it, but in respect to the history of the preparation could learn nothing further than that the bag (as butchers call the uterus) had been removed the day before from the body of a cow slaughtered, as usual, in the market, seemingly in good health and condition, and not suspected to be in calf. On handling the uterus, however, the lad saw immediately that it was peculiar; and judging that it might be an object of interest or curiosity to an accoucheur, he offered it to Dr. Campbell, and he kindly transferred it to me: I purchased it precisely in the state in which it was when removed from the body, and proceeded to exa-

* It is the opinion of Dr. Little, Mr. Edward Cock, Mr. Hilton, and other able anatomists who saw the preparation, that, had the patient lived, the crucial ligament, notwithstanding its shortening, would, in time, have yielded to continued extension.

mine it in presence of a number of my students.*

Dissection of the Uterus and its Contents.

Previous to opening the uterus, and merely on handling it, the enlarged horn gave the peculiar feeling of a bag containing a large quantity of bones, rolled up, as it were, into an elongated ball, more than twice the size of the enclosed fist. On being laid open, it was found to contain the entire bones of a fœtal calf, completely separated, that is, perfectly distinct from each other in respect to any anatomical or organic connections: these bones lay *pêle-mêle*, rolled closely up into a ball, quite uninjured, and enveloped every where—that is, generally and individually—by a peculiar, fatty, brain-like substance, in which, therefore, they lay as in a matrix. Besides the bones of the skeleton and teeth, which had not been displaced from their sockets in the jaws, we found the fatty substance, just alluded to, in very considerable quantities: this fatty substance somewhat resembled putrid brain, but was not putrescent; or rather it resembled brain immersed for a certain time in cold water. If it was brain, which I am not disposed to deny or affirm, it could not be recognised as such by simple inspection, for it had lost all traces of organization. In addition to these two substances, we found the cartilages of prolongation of the ribs: these were disjointed or separated from their connection with the ribs. But, perhaps, the most remarkable circumstance remains to be told: there did not exist a trace of any other organ whatever, no more than if they had never existed; neither lungs, nor heart, nor liver, nor bowels, nor cotyledons or placentæ, nor any other structure whatever. The bones were uniformly of a pale yellow colour, and had each a coating of the fatty substance: no unpleasant odour existed; the interior of the uterus seemed to be somewhat more vascular than usual. I have preserved all the structures in case of any

inquirer being desirous of obtaining further information regarding them.

My pursuits and inquiries not having of late years been particularly directed to this line, I cannot venture to say in how far cases similar to the above may or may not have occurred in woman; I have little doubt, however, of this having been the case, and that fœtuses under similar conditions may have occurred in the human female. Before sending this brief notice to the *MEDICAL GAZETTE* of London, I shall feel obliged by your stating to its Editor the result of your own experience in this curious physiological problem. In the meantime permit me to add that the occurrence is probably not unfrequent in the cow, as may be gathered from the following curious history:—

Mr. B., a small farmer and butcher, informed me that he once purchased a cow under the following singular circumstances:—Mr. N., of Burness, sold a short-horned cow at a public sale, for twenty guineas, to Mr. T., of Crighton: the cow was warranted at the time of sale to be in calf to a particular bull of the same breed. Mr. T. kept the cow twelve months in expectation of the calf appearing; but on finding that this event did not take place, he claimed damages from Mr. N. for the high price of the original purchase of the cow, &c. on the ground of her not having corresponded to the warrantage, and he gained his action with all expenses. The cow, now presumed not to have been with calf at the time of sale, was put on turnips, and fattened for six months, making 18 months in all from the time she was originally supposed to have been in calf. Mr. B., my informant, now purchased the cow for sixteen guineas: on being slaughtered it was found to be extremely fat, producing eleven stone weight of the best tallow: on touching the uterus Mr. B. was satisfied that both from the size and feeling it contained something unusual, and on opening he found within it the entire bones of a calf, disarticulated, perfectly white, and rolled up in a mass: in addition to the bones, there was about half a pound of a viscous, inodorous liquid, and nothing besides of any other texture was found in the uterus.

In conclusion, the matter came to be talked of, and Mr. N.'s friends employed an agent to inspect the bones of

* This practice I have very generally pursued, not so much from any desire or necessity for authenticating such dissections and preparations, as from a wish to teach the student *practically* as much as possible. It has the useful effect of inducing him to *think*, to which, in general, (and on this point I quite agree with Archbishop Whately,) he shows the greatest repugnance.

the foetus found in the uterus by Mr. B. On this foundation an action was raised by him against Mr. T. for restitution of the former damages and expenses, it being now certain that the cow had actually been with calf at the time of the original sale, and this was of course sustained and given in his favour, the facts of the case admitting not of any doubt.

But the longer I study comparative anatomy and physiology, the more I become convinced of the danger there is to sound human physiology by applying hastily or too specifically the reasonings we derive from comparative structures; and thus I feel desirous of learning through you and other distinguished professors of the obstetric art, in how far the above cases may be safely applied in the elucidation of any great principles of human physiology.

I remain, my dear sir, with great respect and esteem,

Yours faithfully,
R. KNOX.

To Dr. Lee, London.

FURTHER OBSERVATIONS ON THE OPTIC NERVES.

To the Editor of the Medical Gazette.

SIR,

PERMIT me to trouble your readers with a few supplemental remarks to my note in last week's GAZETTE.

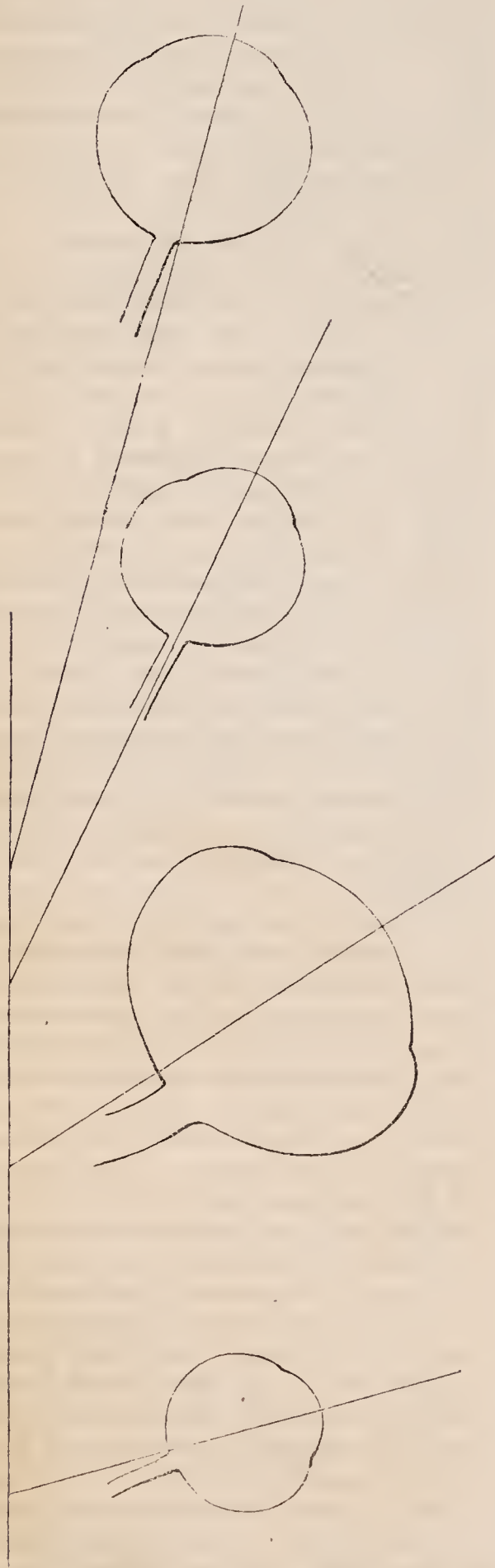
The hypothetical law to account for the irregularities in the distribution of the optic nerves therein given, was this—"In vertebral animals the right optic nerve is distributed to the retinal surfaces which are directed towards the left; the left to those which are directed towards the right;"—only, when applied to animals with convergent vision, or which can see the same point simultaneously with both eyes, for "towards the left or right," must be substituted the expression "towards the left or right of the common visual axis." The quantity of retinal surface in each eye, in animals capable of convergent vision, to which I suppose filaments of the optic nerve of the same side to be distributed, comprehends all that is directed towards a vertical plane containing the common visual axis, in all possible degrees of inclination of the two optic axes towards their common axis.

I pointed out that this hypothetical law is consistent with what is known anatomically and physiologically of the two extreme instances—those of osseous fish, and man. It is further consistent with what is known of the anatomy and physiology of the same organs in cartilaginous fishes, in reptiles, and in birds that have exclusively lateral vision. In all these additional instances there is direct or analogical evidence to show that the right nerve is employed in vision towards the left, the left in vision towards the right; and to the same extent is the argument, from uniformity, strengthened, that the same holds in man. To learn how far the views which I have advanced promise to be supported by the arrangement of the optic nerves, in mammalia, I requested Mr. Walker, a very diligent student at the Middlesex Hospital School, to prepare dissections of the heads of a cat, a dog, a sheep, and a rabbit; forming a series in which there is obviously less and less convergent vision. The measurements and figures, in the adjoined diagram, I made and drew after Mr. Walker's dissections. The diagram gives the inclination of the optic axis to the median plane in each animal, as it is found after death, and the entrance point of the optic nerves. The upper figure represents the cat's eye, the next the dog's, the lowest the rabbit's.

Of these the two first coincide perfectly with the hypothetical law. In the cat the optic nerve is inserted, as in man, internally to the optic axis, but close to it, therefore *further outwards* than in man; in the dog the optic nerve enters immediately in the optic axis, *further outwards still*. The place of entrance of the nerve in the two cases, falls therefore where I should theoretically have anticipated it would fall, from the different positions of the eyes in each, and from the different extent of convergent vision reasonably attributable to each. And it is to be remarked that the three instances, including man, concur in this, that convergent vision is that principally employed in each of them.

But in the sheep and rabbit the entrance of the nerve does not occur at the distance where I had theoretically calculated its place, from and to the outside of the visual axis. This fact, however, is by no means irreconcilable with the

hypothetical law above given, for the following reason:—The vision of the sheep and rabbit is *principally lateral*;



it is therefore probable that each optic nerve in these animals contains few non-decussating filaments, or filaments from the same side of the brain; and

that these not having consequence enough to give a character to the whole arrangement, make their way behind some of the other set to the small part of the retina they hypothetically belong to;—it being conceivable that in those animals, whose vision is so highly divergent, the place of entrance of the nerve is determined by other principles; those, namely, which regulate it in animals whose vision is exclusively lateral, and whose eyes are supplied from one optic nerve alone.

Perhaps the facts and suggestions which I have thus advanced may lead some one, with more leisure for physiological pursuits than myself, to investigate this subject thoroughly; and finally to determine on what principle—whether that which I have analogically anticipated, or another—the peculiarities in the distribution of the optic nerves are to be explained, which have now so frequently been made the theme of conjecture.—I am, sir,

Your obedient servant,

HERBERT MAYO.

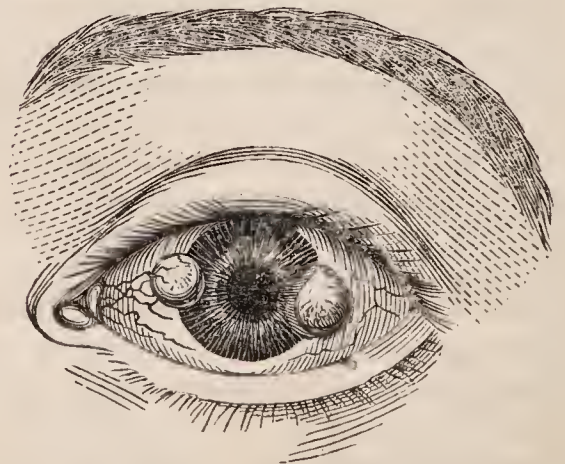
19, George Street, Hanover Square,
Nov. 5, 1841.

RARE CONGENITAL DISEASE OF THE EYE.

To the Editor of the Medical Gazette.

SIR,

I BEG leave to enclose you a drawing of a rare congenital disease of the eye, which lately came under my observation at the Royal Ophthalmic Hospital, Moorfields.



The following are the particulars of the case.

John Muckle, ætat. 19, presented himself on the 2d of July.

There is a tumor on the left eye, arising, in part, from the sclerotica,

and in part from the outer side of the cornea. It is about the size of a pea, somewhat triangular in shape, and of a dense fibrous consistence.

A similar growth, but of smaller size, is situated towards the inner side of the cornea, and, like the former, has its origin partly from that tunic, and partly from the sclerotic. These tumors are both covered by the conjunctiva, are of a pale pink colour, and a number of minute hairs grow from their surfaces. Two or three vessels are continued from the caruncle into the substance of the smaller tumor.

There is an appearance of a similar growth towards the outer canthus of the right eye, at the junction of the palpebral and ocular conjunctivæ.

These tumors are congenital, and have always, according to the patient's account, borne the same relation to the eyes, with regard to size, as at present, enlarging in proportion as those organs increased.

Mr. Wardrop relates a case of a similar congenital malformation in a man fifty years of age. The tumor was about the size of a horse bean, situated on the temporal side of the eye, and, as in the present instance, arising from the cornea and sclerotic. There were upwards of twelve long hairs upon it; and it is worthy of remark that these did not make their appearance until the patient's beard grew, at the age of sixteen.

Dr. Mackenzie and Dr. Barron have also described examples of these tumors, which are, however, by no means of common occurrence.—I am, sir,

Your obedient servant,

W. W. COOPER.

308, Regent St. (late of Suffolk Place),
November 1841.

SCALD OF GLOTTIS.

To the Editor of the Medical Gazette.

SIR,

IF there is anything in the following cases that you think worthy to meet the eye of the profession, their insertion in the GAZETTE will greatly oblige,

Your obedient servant,

JOHN CHRISTIE, M.D.
M.R.C.S.L.

Rhynie, Aberdeenshire,
28th Oct. 1841.

On the forenoon of the 12th Decr. 1839, I was summoned in great haste to a boy, aged six years, who was reported to have swallowed a portion of the contents of the tea-pot during breakfast-time of the same day. On arrival I found my little patient suffering greatly from symptoms of scalded glottis. There was extreme difficulty of breathing, pallor of the countenance, lividity of the lips, and other urgent symptoms of laryngitis. Being at a considerable distance from assistance, and the boy evidently in peril of dying of asphyxia, I determined on making an opening into the larynx; it being, in my opinion, the only means of affording a chance of ultimate recovery or escape from impending dissolution. With this view of the case I accordingly, by a single stroke of a small scalpel, made an opening into the larynx through the crico-thyroid membrane, which immediately relieved the dyspnœa; and as he continued the rest of the day and preceding night to breathe freely through the opening, I did not deem it necessary to insert a tube into it for the purpose of keeping it patent. Time for the application of remedies being thus gained, the next object was to subdue, if possible, the inflammation of the scalded parts; and for this purpose I prescribed small doses of calomel every two hours; but the tumefaction of the mouth and fauces was so great, and deglutition in consequence so difficult, that I could not be certain any portion of the calomel was swallowed. In these circumstances I had recourse to the sedulous inunction of mercurial ointment until the gums were decidedly affected, which was on the fourth day. In the interim two leeches were applied over the injured organ. No sooner did the mercury begin to affect the mouth than the severer symptoms began to abate, and on the fifth day he first breathed through the opening of the glottis. By the ninth day the wound in the neck had healed; and on the tenth the little sufferer first swallowed food, he having, until that period, been supported by nutritious injections of beef-tea, arrow-root, and other similar preparations. The mouth and neighbouring parts having been severely injured, several sloughs separated about this time, but the remaining sores soon cicatrized under the use of soothing

diluents, aided by a weak solution of sulphate of zinc, used as a gargle. The boy now rapidly recovered, and soon regained his health and strength. I ought not to omit that during his convalescence I made him wear one of Jeffreys' respirators, and, young as he was, he felt and expressed its utility in modifying the temperature of the atmosphere.

REMARKS.—The foregoing case illustrates the paramount importance of having early recourse to laryngotomy in urgent cases of scalded glottis, where the principal intention is to obviate the more dangerous symptoms, so that time for the exhibition of remedies calculated to control the inflammation may be gained. Although it contributed little or nothing to the subsequent cure of the disease, it was valuable as an immediate means of relieving the extreme dyspnœa and threatened asphyxia. Tracheotomy is generally advised* in preference to the operation had recourse to in the case just narrated, and with justice, when there is reason to believe that the larynx and surrounding parts are, to a considerable extent, involved in the accident, either by immediate contact of the scalded fluid, or by the spreading of the inflammation from the glottis downwards through the larynx. In this case I could not, of course, positively assure myself that the larynx below the glottis was uninjured; but acting on the presumption that the contact of the hot tea with the epiglottis and fauces would produce an instant spasmodic closure of the opening into the larynx, and that thus it would be protected from immediate injury, and seeing that little more than two hours had elapsed since the occurrence of the accident, I gave the preference to laryngotomy, and the event justified my decision. I am aware that the larynx is generally considered to be primarily involved, and tracheotomy, in consequence, the operation most had recourse to in such cases; and the reasoning on which this practice is built is by no means destitute of foundation, although I do not consider it so generally applicable as alleged.

The convulsive actions excited by the contact of such an irritant as boiling water tend rather to the rejection than

the exhalation of the fluid: at all events, from the structure and functions of the parts concerned when such an accident occurs, we are warranted in considering the inflammation of the box of the larynx for the most part a secondary affection, which, by a timely performance of laryngotomy, may be obviated. A favourable feature in the case recorded above was the remaining open of the wound in the crico-thyroid membrane without the use of a tube, which, had it been required, would have necessarily given rise to considerable irritation, and hence materially interfered with the quietude that was otherwise secured. Had the symptoms been less urgent, I would have delayed the operation for a time; but the congestion and lividity of the face, together with the severity of the dyspnœa, amounting at times almost to complete asphyxia, called for immediate interference; for, had it been made a "dernier resort," it would, as Louis has observed in regard to similar cases, have been "performed too late."

The use of the respirator is sufficiently obvious; it is, indeed, an invaluable instrument in most cases of disease affecting the respiratory organs.

Varicocèle.—About two years and a half ago an intelligent mechanic consulted me about an enlargement of the spermatic veins, which was daily becoming more troublesome. I directed him to construct and apply a ring over the scrotum, as advised by Mr. Wormald in the *MEDICAL GAZETTE*, April 28th, 1838. He has worn it ever since with the greatest relief, and can now endure fatigue of any description with little trouble as compared with the inconvenience he suffered before the application of the ring, which, in his case, is made of soft copper instead of silver wire, as in that reported by Mr. Wormald.

ANALYSES AND NOTICES OF BOOKS.

"L'Auteur se tue à allonger ce que le lecteur se tue à abréger."—D'ALEMBERT.

Observations on Tuberculous Consumption. By J. S. CAMPBELL, M.D., &c. 8vo. Baillière, 1841.

WE have here presented to us a new volume upon phthisis: and in applying the epithet *new*, we have not failed to

* *Practical Surgery*, by R. Liston, p. 373.

reflect how rarely, among the numerous works that each successive publishing season appear on our medical booksellers' counters, professing to treat of consumption, and advertised as "just out," the word new, as applicable to the subject matter of their pages, is justly made use of by the authors. Setting aside for the present the great accumulation of works on this disease with which clever young men—their diplomas newly framed and suspended over their parlour chimney-pieces—encumber the literature of the profession, it must be admitted that, in the last quarter of a century, treatises on consumption of the most distinguished merit and value have appeared, at home and abroad, in remarkable number. And the profession has shown its gratitude to the eminent writers especially referred to. For what more acceptable return could these authors demand for their labours, than to observe the extraordinary influence which has been so generally, and, it is to be predicted, durably, produced by their writings? In no department of medical science have such important improvements, bearing directly on practice, been introduced in the period specified, as in the knowledge of chest diseases, including phthisis. It may, nevertheless, have occurred to the minds of some of our readers that, for several years back, in the investigation of this lamentably frequent disease, over which so little control is allowed to medical art, the pursuits of physicians and pathologists have been directed too much to certain subjects of inquiry, to the neglect of others. As a general remark, it will be admitted to be true, that they have applied themselves to the study of diagnosis, and to the investigation of the distinctive morbid appearances connected with the diagnosis, with a greater devotion and zeal than to other questions, which yet demand much additional inquiry, and will certainly prove fruitful of many useful results. The time has arrived when it would be advantageous for physicians to turn their minds more closely to the observation of the disease in relation to the constitutional influences connected with its presence. We are far from meaning to assert that in recent publications the questions to which we refer have been passed over. When we have the treatise of the late lamented Dr.

Tod, and the observations of Sir James Clark, contained in his work on Consumption, to point to for remarks on those subjects, such a statement would be unjust. But it may, notwithstanding, be said, that during the lapse of some years past, while the attention of the profession, so far as relates to diseases of the lungs, has been absorbed, as it were, with the remarkable successes attending the labours of those writers who have devoted themselves, after Laennec, to the observation of the physical signs, and the morbid anatomy conjointly, of the disorder, by which the seat and extent of its ravages are so accurately, and, for the most part, so unerringly discovered by expert stethoscopists during life, considerable improvements as to the knowledge of the influences produced by particular states of the constitution and by morbid actions, reciprocally, upon each other, have been making in regard to diseases situated in other organs. For example, there have not been wanting physicians, and surgeons too, endowed with acute powers of observation, and cautious in drawing deductions, who, in reference to several distinct organs, have employed themselves with gratifying success in identifying peculiar kinds of constitutional disturbance, or functional derangement of separate viscera, with the accession of particular organic diseases, and in distinguishing from these the subsequent disturbances of constitution which are to be attributed to the progress, in different degrees of extent, of the disorganization when it has taken place. Indeed, such is the prevalent feeling about this matter, so far as we can judge, that it may even appear a trite and common remark at the present time, whatever may have been the case a short time back, to say that, unless a disease be studied in the manner indicated, with a view to its vital relations, precedent and succedent, our knowledge of the morbid changes belonging to it, however familiar and complete, goes for very little, when taking into account the essential nature of the disease. Now we question whether this mode of investigation, that has been found so peculiarly advantageous in elucidating other diseases, has been properly applied to the study of phthisis. To be able to ascertain with correctness the actual presence of tubercles, and to be able to

judge also of the amount of lesion in the lungs at successive periods, are no doubt absolutely necessary acquirements on the part of the physician before he can conduct the observations to which we refer. But we think that, now, sufficient dependence may be fairly placed upon the powers possessed by many accomplished physicians to undertake the inquiries in the manner alluded to. It accords, we are bold to say, with the experience of every practitioner who has watched even a few cases of phthisis to their termination, when we remark that the march of the disease — its disposition to assume a slow or a rapid course to its fatal issue — can never be predicted from the most precise acquaintance with the structural changes that have occurred. And, what is still more important to notice, the constitutional effects do not bear any intelligible relation, in severity, to the amount of destruction of the organ in which the disease is situated. These facts show impressively, without stating any others, how much requires to be ascertained, independently of measuring out, with nice accuracy, the extent of morbid changes in the particular viscus considered as the seat of the disease, before we can have any correct notion of the nature of the agent, whose destroying, and, at present, irresistible influence, we vainly endeavour to combat in our practice.

The work now lying before us, by Dr. Campbell, is to be recommended for adopting the same views which we have just endeavoured to express. And it may justly be said, in the author's favour, that he has succeeded, by his mode of treating his subject, in imparting a great deal of the interest of novelty to the discussions on this much vexed disease, as well as conveying much valuable instruction. We are prevented by our limits from speaking at large on the contents of his volume. We ought to state, however, that had our space allowed us the opportunity, we should have had to describe many very ingenious courses of inquiry into which the author has ably conducted his readers, in the prosecution of the objects at which we have hinted. In selecting some of the problems which he has imposed upon himself as tasks for solution, we would remark that Dr. Campbell has displayed a good deal of

courage: for it must be allowed that, owing to the difficulties surrounding them, they demand the exercise of a mind vigorous and well practised in logical conflict, to give any thing like a satisfactory exposition of them; and the results have been generally altogether in his favour. In conclusion, we think Dr. Campbell has done good service to the professional public, by directing attention to the important questions embraced in his work; and the benefit has been enhanced by his contributing, at the same time, sound original observations of a practical kind, that promise to be of much service to the practitioner in the treatment of phthisis.

Clinical Researches on Auscultation of the Respiratory Organs, and on the First Stage of Phthisis Pulmonalis. By JULES FOURNET. Part I. Translated by Thomas Brady, M.B. &c. London and Dublin, 1841.

M. FOURNET has, probably, a better reputation for stethoscopic knowledge than any man of his age in Paris: no one has pursued, with more energy, or with such good results, the study of auscultation, since Laennec. Adding, as he has done, a complete set of new signs of disease, drawn from the alterations of the *expiratory murmur*, he has furnished the instrument for investigations which he himself has not yet nearly carried to their end. The part of the treatise (not yet published in the translation) which relates to phthisis, is, probably, but a first-fruits of his minute and careful system of investigation; but it is a good earnest of future success. If phthisis be curable, it probably is so only when attacked in its very onset: but in this stage there is, we believe, no other method of certainly ascertaining its presence than that which M. Fournet furnishes: we need not say, therefore, that all who are prepared for it by a previous thorough knowledge of the principles and elements of auscultation, should study his work; and that, although there are probably few so prepared who need a translation from the French, yet Dr. Brady, having decently acquitted himself of his somewhat tedious task, deserves the thanks of his professional brethren. It deserves mention, that the portion of the work now published

is so far independent of that on phthisis, that it is, in itself, a complete manual of auscultation, and a sufficient guide to the study of the very highest departments of that art.

MEDICAL GAZETTE.

Friday, November 12, 1841.

“Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso.”

CICERO.

MORE FRUITS OF QUACKERY.

WE have now before us another example of the evil influence of quackery in its most ignorant form. A man of the name of Chamberlayne, who had formerly been a journeyman butcher in or near Hertford, wisely suspecting that physic would be more profitable, even though it might not be less destructive, than his ordinary mode of killing, took to attempting the cure of cancer and other tumors. His mode of treatment had not even the advantage of pretending to save pain: he used both caustics of the most acrid kind, and the knife; first destroying widely all that he supposed diseased, and then extirpating all around the slough. Yet in spite of this, though his plan could be neither more successful nor less terrible than that commonly pursued, he found many ready enough to submit to him. Among them was one poor woman who had suffered for some time from a disease of the breast, not certainly cancerous, but to which he, of course, applied his only remedy; and this with so much energy that, cauterizing far and wide, the inflammation at length spread to the pleura, and, after a premature confinement, apparently produced by the severity of her sufferings, she died of acute pleuritis.

Now is there really no cure for such things as these? or rather is there to

be no prevention of them? For, when death results, there is that which is called, though unworthily, some remedy. The strangest anomaly in our laws in this particular is, that if a man unauthorized to practise medicine kills a patient, by administering to his sickness, he is punished as for homicide; yet, for all less mischiefs than actual manslaughter, he goes scot free. Now the principle of just law is to punish a man in proportion to his intention, his carelessness, or his rashness, as much as to his deed: thus, if one shoots at another, and do not hit him, he is yet punished for the “intent to do some grievous bodily harm:” so also an impostor in attempt is often as heavily awarded as one in deed; and in all other cases, though the unsuccessful intention may not be punished so much as the actual commission of the evil purpose, yet the one is regarded as a crime differing in degree rather than in kind from the other, and meets its due requital. Or, again, in another class of cases, if a man on his way to the infliction of a certain amount of injury, personal or pecuniary, upon another, accomplishes but a part of that which was possible, he is yet punished according to that part. But in regard to quackery these just rules are almost neglected. A man with, we will suppose, no intention to injure his fellow, inflicts upon him, by the unwise use or neglect of medicines, a grievous bodily harm; yet no one interferes, or can interfere, unless the poor patient be absolutely killed: short of that the quack is safe: so that he need only undertake to cure diseases not in themselves fatal, or use medicines that, however ill applied, cannot kill, and no loss, but an abundance of profit, will come to him. For the injuries that quacks commit are, if not fatal, not at all discernible to the public eye: they are confounded with the supposed ne-

cessary progress of the disease, or not seen at all.

In this, and in many other things, the laws regarding quackery do not stand on a level with those concerning other dangerous practices: and though it may be impossible to suppress, by law, this or any other source of evil to the public, yet we do contend that at least equal precautions should be taken for the general safety against all the equally perilous customs to which men are exposed. Without it there can be no security. Some men say, "educate the people! Teach them, and they will know that none but an educated practitioner can safely have charge of them." Why! when will the people be better educated than the nobility and high commoners, who, on their oaths, professed their confidence in the wisdom of the arch quack, St. John Long? Education will not for centuries—no, not till ploughmen are wiser than the gentry of these days—teach men the fallacy of quackery; and this because there is little or nothing in the practice of medicine which is obvious upon the principles of those other sciences which can be generally taught, or which is plainly deducible from such an amount of physiological knowledge as can be popularly imparted. The wisest of our mathematicians, our lawyers, our statesmen, are (unless by some accident) as ignorant of medicine as the last victim of Chamberlayne's caustics; and, if they do not so often as the poor and unwise fall into the hands of quacks, it is from a general opinion that in every thing an educated man must be safer than an uneducated one, rather than from any actual knowledge of the truth of such an opinion in regard to medicine.

The educational amendment of the evil, then, we believe to be founded on a vain hope, because in these matters the educated are not the wisest. Some

other remedy must be found: we need not look for one to destroy, root and branch, the whole system of quackery, (for such an one is impossible); but we must endeavour to throw such legal obstacles in its path as will, in some measure, prevent its fearful, and often fatal, mischiefs.

THE MEDICO-CHIRURGICAL SOCIETY.

THE meetings of this excellent Society recommenced for the season on Tuesday evening. The first assembly of the members was, we believe, unusually numerous, and the room was crowded with them and their friends introduced as visitors. Several new members were also enrolled, and a much greater than ordinary number of names were announced as candidates for admission. In a word, we are assured that both the funds and the reputation of the Society are in a very prosperous condition: and this affords the best proof of the excellence of the principles of plain common sense, and the good business habits, upon which it is conducted. As the first medical Society in this kingdom, we have often compared its course with the Academie Royale de Médecine of Paris, which, though it contains among its members all the chiefs of the profession in France—is peculiarly under government patronage—is the professional adviser (so to speak) of the government in all public matters, even to the judging of quack medicines—has a most imposing system of correspondence, commissions, bulletins, memoirs, reports, and we know not what—is yet, in the results of its labours, less fruitful, and in the general conduct of its affairs, altogether disreputable. The proceedings of late years have exhibited the Academie as the arena of the most angry personal ebullitions: the commissions have constantly been complained of as too tardy

or too hasty—too favourable to one member, or his friends—too unfavourable to another: and these criticisms are not always without justice, for it is very evident that there are some who are always treated with as little respect as possible, others for whom no praise is deemed too great; although, to an impartial distant observer, there be no great difference between their respective merits. In a word, the Academie does not *work well*: it affords another example, in addition to the *concours*, and various others, that these French schemes, which look so well on paper, are not half so good as the ordinary British plans of business, in which, because we see at once beyond the surface, we can discern a few defects.

The Medico-Chirurgical Society has fortunately now placed itself out of the reach of the rivalry of any other in England; and it is almost essential to its continued success that it should be so much above other societies that they should hold themselves as, in some measure, subordinate to it. Nothing is more injurious, we believe, to the progress of any science, than the multiplication of publishing societies for the professed purpose of encouraging it. It renders it almost impossible for a man to keep himself *au courant* with the progress of his science. The Transactions of the Medico-Chirurgical Society form annually but a small volume culled from all the papers communicated: and we believe that of the papers rejected there are very few which are not at least as good as the majority of those that appear in the Transactions of the smaller societies. At any rate, this is certain—that all the really good medical papers published in a year by all the societies in England, would not make up more than one moderately sized volume, and in such an *one* (not scattered through a dozen) they ought to be published. Much as we have

said in its praise, the Medico-Chirurgical Society would not lose by omitting even some of its selected papers, and their places might be well filled with some of those that are now published, or at least printed, in the Transactions of other societies.

What we have said applies of course only to those papers which are destined to be read at Societies. The number which is thus disposed of is never considerable enough for any or all of the Transactions to interfere as rivals with our own or any similar journal: so that we are altogether disinterested in the matter, and only for the advantage of medical literature urge the propriety of thus concentrating, in a small space, all that is good of this class of papers. We know not any particular advantage which authors derive from such a mode of publication under the best circumstances: but, undoubtedly, if they have written any thing of merit, they suffer damage by placing it where it can be little read, and where it is, in fact, altogether hidden from the great mass of the profession.

THE DOWNING PROFESSORSHIP.

THIS appointment has been conferred upon Dr. Fisher, of Cambridge. He is, we believe, well qualified for the discharge of its duties. Politics, we are happy to say, had no influence in the election: those of Dr. Fisher being opposed to the opinions of the electors, who were the Archbishops of Canterbury and York, and the Masters of Clare Hall, Downing and St. John's Colleges. The circumstances which insured Dr. Fisher the preference, were his being resident in Cambridge, and already a fellow of Downing College. He has, therefore, merely changed his late fellowship for that with which the Professorship of Medicine is connected: an arrangement by which, we understand, the interests of the College will be further advantaged, inasmuch as it opens a fellowship, to which a gentleman, who will also undertake the duties of Classical Lecturer, will be appointed.

ON THE
FUNCTIONS OF THE EPIGLOTTIS,
AND ON THE
CLOSURE OF THE GLOTTIS IN
DEGLUTITION, &c.

BY M. LONGET.

M. LONGET, in a memoir recently read at the Academie des Sciences, remarks that there are four circumstances which oppose the introduction of solid or liquid food into the air-passages. 1. The ascensional movement of the larynx forwards combined with that of the tongue backwards, whose base applies itself over the superior orifice of the larynx; 2, the epiglottis, which, placed between the orifice and the base of the tongue, follows the movement impressed on it by the latter: and as it were moulds itself over the orifice; 3, the exquisite sensibility of the mucous membrane covering the supra-glottic space; and 4, the closure of the glottis.

A remarkable fact pointed out by M. Longet is, that in the second period of deglutition, the closure of the glottis is still effected, even after the division of the nerves of all the proper muscles of the larynx. He has found that this closure is due neither to the crico-thyroid, which are then paralyzed, nor to the thyrohyoid muscles, which he purposely removed, but to the inferior constrictors of the pharynx, which, embracing the diverging alæ of the thyroid cartilage, beset them forcibly one towards the other, approximating the lips of the glottis, and pressing in the muscles external to them.

The epiglottis was completely excised in six dogs: solid food passed with facility, but the deglutition of liquids was often not accompanied but followed by a convulsive cough, which the author explains by the falling into the supra-glottic chamber of the drops of liquid which after deglutition still stand upon the inclined plane of the base of the tongue, and which in the normal state are shelved off by the epiglottis, which turns their course into the two lateral channels by the larynx. The removal of the epiglottis did not obviously affect the voice.

When, on a dog, the two recurrent nerves and the filaments belonging to the crico-thyroid muscles are divided so as to paralyse all the proper muscles of the larynx, and leave the internal laryngeal nerve which presides over the supra-glottic sensibility, entire, nothing will pass into the trachea when the animal is made to drink. But if the internal laryngeal nerves be also divided, the glottis will still be closed, but some drops of liquid will fall into the trachea, because the animal not being aware of the presence

of the liquid, its glottis often closes too slowly.

The closure of the glottis is not indispensable to the swallowing of liquids poured cautiously into the mouth, for M. L. made animals swallow while he held the glottis slightly open with a pair of forceps.

He concludes that the displacements of the base of the tongue and of the epiglottis are the two most important conditions, and that the closure of the glottis is only the last barrier which nature sets up against the passage of food into the trachea.—*L'Examineur Médical*, October 17, 1841.

DISARTICULATION OF THE
SHOULDER,

WITH REMOVAL OF THE SCAPULA AND PART
OF THE CLAVICLE, AND EXTIRPATION OF
ONE TESTICLE.

BY GAETANI BEY.

ON the 31st of December, 1830, a child, 14 years, was taken to the hospital at Cairo, having received some severe wounds in the left shoulder and scrotum. He had been employed in a common foundry, and was standing by a furnace when they were putting into it for re-founding an old piece of artillery loaded with powder only, but in which there had collected during the time it had lain by, pieces of stone, and brick, and earth. The discharge took place immediately, and struck the child in several places, but especially in the left arm and shoulder, of which the soft parts and bones were torn in the most frightful manner: other pieces hit the scrotum, and divided the spermatic cord of the same side. In this state of things my first care was to expose the upper part of the spermatic cord, and tie the spermatic artery, and then I removed the testicle, extracted some foreign bodies, and after having taken away the bruised flesh that formed the edges of the wound, united them with adhesive plaister and a few sutures. This done I examined the state of the arm, which I found comminutely fractured at its upper end, with the soft parts lacerated, and, as it were, mashed. The only resource being the removal of the limb, I accomplished this easily without sparing the bruised integuments, and preserving only a flap which I fortunately found intact at the inner side, and which I kept to cover the glenoid cavity. But I was forced to give up this plan, on discovering that the scapula was broken into several pieces, of which some were entirely isolated. The serious consequences that would result from so terrible an injury, if left to itself, and the insufficiency of integuments to cover the wound, determined me

to go on, and to remove with the arm the scapula, and the muscle adhering to it. I therefore first separated the clavicle from the acromion, and then carefully dissected off the skin, which still covered a part of the inferior angle of the scapula. The scapula being removed, it remained to cut off the acromial end of the clavicle, so as to get rid of the inconvenient prominence which it would have formed. A compress being placed under the clavicle served to guard the subclavian vessels and the nerves of the brachial plexus from the saw. When all was done the edges of the great wound were irregular and bruised; and it became necessary to cut them off with the scissors, so as to make their irregularities, as nearly as possible, correspond, and to remove such portions as would not have united. Their contact was at last secured by sutures and bandages.

The traumatic fever was slight. The only ill event that happened during the progress of the cure was a gangrenous state of the skin of the scrotum. The wound at the shoulder was, for the most part, united on the fourth day, though the flaps did not completely cover it. On the 24th of February the union of both the wounds was perfected. — *Annali Univ. de Medicina*, Marzo, 1841; and *Gazette Médicale*, Juillet 10, 1841.

ON THE EFFECTS OF THE APPLICATION OF AN IMPERMEABLE SUBSTANCE OVER THE SKIN.

BY MM. BECQUEREL AND BRESCHET.

AT the Institut, on the 18th of October, M. Breschet read, in his own and M. Becquerel's names, a memoir on the temperature of the organized tissues of several mammalia, and especially of rabbits, in whom the hair had been shaved off, and the skin covered with an impermeable material, composed of glue, suet, and resin; and also the results of some experiments on the temperature of arterial and of venous blood.

According to the authors, the death of animals thus treated, so as to put a stop to the cutaneous exhalation, is due to asphyxia. They endeavoured to determine experimentally the variations of temperature that supervened from the time of the application of the substance to that of death. It might seem natural to suppose, that by preventing the evaporation of the sweat, the temperature of the tissues would be very sensibly increased; and that by this increase of the temperature of the whole body, a high state of fever would be engendered, with the symptoms of which the animal would at last

die. But the contrary occurred. Thus, in the first rabbit, which had a temperature of 38° C. before being shaved and plaistered, it had fallen to 32° by the time the material spread over him was dry. An hour after, the thermometer, placed in the same parts (the muscles of the thigh and chest), had descended to 24·5°. On another rabbit, prepared with more care, by the time the plaister was dry, the temperature of the body was not more than 3° above that of the surrounding medium, which was at that time 17°. An hour after, this animal died.

The authors then undertook to determine the difference between the respective temperatures of arterial and venous blood. Their experiments were made with small thermometers, placed in the auricles of the hearts of dogs: and they constantly gave the same results, namely, an increase of some fraction of a degree in favour of the blood in the left auricle.—*Gazette Médicale*, Oct. 23, 1841.

REMARKABLE CASES OF PARALYSIS.

IN the *Memoriale della Medicina Contemporanea*, for February, there are described two unusual varieties of this disease. In one, which Signor Gaddi calls *alternating*, the paralysis occupied only very limited surfaces on the right side of the body, which were separated from one another by portions of skin possessing their normal sensibility. Thus there was scarcely any sensibility on the face and cranium, and none at all on the back of the neck and the right shoulder; but it was perfect from the posterior edge of the sterno mastoid behind to the median line before. There was also complete insensibility at the axilla and on the deltoid, but it ceased at the inferior edge of the muscle; and there was full sensibility from this part to within an inch of the radio-carpal articulation, below which again all was senseless. The whole right side of the trunk was insensible to the groin; but there was no such affection of the lower extremity. This paralysis occurred in a girl 17 years old, in consequence of suppressed menstruation, and at the time of writing had resisted all treatment.

The second case, S. Fario, was that of a young man who had been affected a long time with amaurosis, strabismus of the right eye, and obstinate constipation. His physician wishing to examine the abdomen was surprised to find that its skin was completely insensible, though there was no other sign of paralysis. By running a pin into them, it was found that the subjacent muscles were also void of sensation. Leeches were frequently applied over the vertebral column, and irritating pediluvia and purgatives employed: but they produced only a slow

amendment ; and strychnia was then given, and its dose gradually increased to a grain and a half per day. Convulsions appearing, its use was discontinued, and nothing was employed except mercurial frictions on the lower part of the spine and round the orbit. Under the influence of this treatment the anæsthesia disappeared, and with it the amaurosis and the constipation—diseases which probably all depended on the same cause.—*Gazette Médicale*, Juillet 10, 1841.

SOLUTION OF MORPHIA.

WE not unfrequently see prescriptions in which liq. morphiæ, mur. or liq. morphiæ acetat. is ordered. There is, however, no standard strength for these preparations.

Magendie, who is generally considered an authority on the subject, gives the following formulæ :—

“ *Solution of acetate of morphine.*—Acetate of morphine, 16 grains ; distilled water, 1 ounce ; acetic acid, 3 or 4 drops ; alcohol, 1 gros. The last two are added to keep the salt in solution.

“ The dose is from six to twenty-four drops.

“ *Solution of sulphate of morphine.*—There are some patients who cannot bear the acetate of morphine, but receive benefit from the use of the sulphate. In these cases a solution must be made similar to the preceding, only using the sulphate in the place of the acetate, and sulphuric acid instead of acetic.”

The muriate of morphia is much more generally used in this country than the sulphate, and the solution may be made in a similar manner, omitting the muriatic acid, which in excess renders the morphia less soluble. But some chemists, as we are informed, prepare the solutions of morphia in the proportions of 8 grains to the ounce, and others keep it the same strength as laudanum, which is about 4½ grains to the ounce.

It is evident, therefore, that when these solutions are ordered, unless the strength is specified, there can be no security for their uniform preparation.

This subject is one which, among many others, demands the attention of the Pharmaceutical Society.—*Phar. Trans.* Oct.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, Nov. 4, 1841.

Richard Willis, Plymouth.—W. T. White, Richmond, Surrey.—C. Mott, Reading, Berks.—T. Thexton, Barnsley, Yorks.—W. A. Grigg, Barnsbury, Wilts.—R. Wood, Middleton, York.—R. S. Tate, West Boldon, Durham.—W. G. Marshall, Pitsford, Northamptonshire.

APOTHECARIES' HALL.

COMPETITION FOR HONOURS.

To the Editor of the Medical Gazette.

I BEG to forward you the names of the successful competitors for honours awarded yesterday (Nov. 9th) by the Master and Wardens of the Society of Apothecaries.

Your obedient servant,
WILLIAM J. PRESTON.

University College,
Nov. 10, 1841.

Botany.

Examiner—N. B. Ward, Esq.

Mr. W. J. Preston, gold medal—University College.

Materia Medica and Therapeutics.

Examiner—Dr. Copland.

Mr. A. B. Garrod, gold medal,—University College.

Mr. G. Johnson, silver medal—King's College.

Mr. J. Thompson, silver medal—University College.

TABLE OF MORTALITY FOR THE METROPOLIS.

Small Pox	4
Measles	19
Scarlatina	13
Hooping Cough	53
Croup	8
Thrush	7
Diarrhoea	10
Dysentery	3
Cholera	0
Influenza.....	1
Typhus	18
Erysipelas	5
Syphilis	0
Hydrophobia	0
Diseases of the Brain, Nerves; and Senses ..	113
Diseases of the Lungs, and other Organs of Respiration.....	240
Diseases of the Heart and Blood-vessels	12
Diseases of the Stomach, Liver, and other Organs of Digestion	68
Diseases of the Kidneys, &c.....	9
Childbed	8
Ovarian Dropsy	0
Disease of Uterus, &c.	0
Rheumatism	3
Diseases of Joints, &c.	3
Ulcer	0
Fistula	0
Diseases of Skin, &c.	1
Diseases of Uncertain Seat	96
Old Age or Natural Decay.....	68
Deaths by Violence, Privation, or Intemperance	25
Causes not specified	5
Deaths from all Causes	792

M. LUGOL'S LECTURES.

THESE lectures will be resumed in an early number. They are revised by M. Lugol himself, and we thus cannot command the same punctuality as we might under other circumstances.

Mr. Ceely's paper in our next.

WILSON & OGILVY, 57, Skinner Street, London.

THE LONDON MEDICAL GAZETTE,

BEING A
WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

FRIDAY, NOVEMBER 19, 1841.

LECTURES

ON THE

PRINCIPLES AND PRACTICE OF PHYSIC,

Delivered at King's College, London,

BY DR. WATSON.

LECTURE LIV.

Pulmonary Hæmorrhage: its varieties; its connexion with pulmonary consumption, and with disease of the heart. Pulmonary Apoplexy. Prognosis in Hæmoptysis. Symptoms. Treatment.

HAVING gone over the *inflammatory* affections of the organ of respiration; having brought before you inflammation of the membrane which *lines the air-passages*, or *bronchitis*; inflammation of the membrane which *invests the lungs*, or *pleurisy*; and inflammation of the *whole substance* of those organs, or *pneumonia*; I proceed next to the subject of *pulmonary hæmorrhage*.

You may remember that, in an early part of the course, I drew your attention to some general facts respecting internal hæmorrhages. I shewed you that the blood does sometimes proceed from ruptured vessels, but that it is much oftener poured forth from unbroken surfaces, in the way of exhalation; and that hæmorrhage of this kind takes place from the *mucous membranes* far more frequently than from any other natural surface of the body. I observed also that such hæmorrhage is almost always preceded by congestion; either by active congestion, which is less common, or by passive and mechanical, which is extremely common: and we speak, accordingly, of active and passive hæmorrhage. Hæmorrhage is also sometimes primary, or idiopathic, and then constitutes the whole disease; and at other times it is merely a

symptom, direct or indirect, of some other disorder, in which case we call it secondary.

Now in the lungs we find examples of all these varieties of internal bleeding; but pulmonary hæmorrhage is secondary much more often than it is primary.

In speaking, therefore, of some forms of pulmonary hæmorrhage, I must touch upon certain diseases of which the bleeding is a symptom: but I shall not go farther into the consideration of those diseases at present, than may be necessary to elucidate the hæmorrhage. Bleeding from the lungs is a thing of most fearful interest; and it will be useful to take a general view of that phenomenon, whether it be a substantial disease in itself, or merely a sign of other pre-existing diseases.

The blood, then, in pulmonary, as in all other hæmorrhages, may issue through a breach in the walls of some considerable blood-vessel; or it may proceed from innumerable points in the mucous membrane of the lungs, by the process of exhalation: and the latter mode of hæmorrhage is much the more common of the two, although it is the popular belief that the "breaking a blood-vessel in the lungs" is of very frequent occurrence.

The particular vessels injured in the first class of cases, and the nature and origin of the breach made in their sides, are matters of infinite variety. Sometimes the blood is extravasated through apertures, the results of a disorganizing process which has commenced in the coats of the vessels themselves; as when, for example, aneurisms of the thoracic aorta, or of its primary divisions, burst, and pour their contents into the air tubes. Having pointed out this accidental and hopeless form of pulmonary hæmorrhage, I shall postpone any farther account of the disease that gives rise to it, to a future lecture.

Sometimes, again, a large blood-vessel is laid open by the encroachment and extension

of disease from contiguous structures. Here is represented (Carswell, fasc. vi. plate iii. fig. 5) the perforation of a large branch of the pulmonary artery, and of a neighbouring bronchial tube, by the extension of tubercular ulceration. The blood escaped so abundantly in this case, that the patient was dead in less than a quarter of an hour. And here I shew you a preserved specimen of a similar opening made in the pulmonary vein.

It will be necessary that I should anticipate somewhat; and in order to include in one view all that relates to pulmonary hæmorrhage, that I should speak cursorily of its connexion with tubercular phthisis. No one here can be ignorant that in that terrible disease portions of the lung are liable to be hollowed out into what are called *vomicæ*, by the softening and expulsion of tubercular matter. Now seeing that hæmoptysis occurs very frequently in persons labouring under consumption, and that the expectoration of blood is often copious, and takes place when it is evident that there are tubercular excavations in the lung, it would be very natural for you to suppose that the bleeding in such cases proceeded from large vessels which had been laid open during the softening of the tubercles, or by the subsequent extension of the ulcerating cavities. But in point of fact, this is very *rarely* the case. I shall explain to you hereafter how it happens that this hæmorrhage from the larger vessels is *generally* prevented; still it does *sometimes* happen.

But in a far greater number of instances the blood in hæmoptysis is *exhaled* from the mucous membrane that lines the air-passages. For when this surface is examined in the dead body, and immediately after the occurrence of pulmonary hæmorrhage, it is very often found to be perfectly entire, from the commencement of the trachea to the remotest divisions of the bronchial tubes; as far, at least, as minute dissection can follow them. The membrane in these cases is usually red, as in simple bronchitis; but it is sometimes pale, or with scarcely any traces of vascularity. The former of these appearances results from the continued turgescence of the capillary vessels; the latter is the consequence of their having been completely emptied of blood by the last hæmorrhage. We shall meet with analogous conditions when we come to examine the hæmorrhages that proceed from *other* mucous surfaces; and especially from that of the alimentary canal.

When blood is thus exhaled from the mucous membrane of the air-passages, the hæmorrhage may be strictly primary or idiopathic, *i. e.* it may be independent of any discoverable alteration of texture, either in the mucous surface itself, or in any other

part which, by reason of some intelligible connexion of structure or relation, seems capable of influencing the capillary circulation of the membrane. But the occurrence of pulmonary hæmorrhage strictly idiopathic has been more frequently affirmed than proved. Active hæmorrhage from the lungs is stated by systematic writers to be the hæmorrhage of adolescence, as epistaxis is that of childhood. I believe, however, that idiopathic active hæmorrhage from these organs is very rare indeed; unless we may consider as such certain forms of *vicarious* bleeding, which I shall presently advert to. Andral tells us that in one instance only, in which hæmorrhage from the surface of the air-passages had been the immediate and apparently the sole cause of death, had he ever found the substance of the lungs free from *tubercles*, and perfectly *healthy*. He does not, however, state whether in this one instance the *heart* also was in its natural condition; an important omission, as we shall hereafter perceive. He relates, indeed, as an example of idiopathic hæmoptysis, the case of a young man who suffered profuse hæmorrhage from the lungs on four several occasions, between the ages of 12 and 18, without any apparent detriment to his health, which remained excellent. It is consistent, however, with much experience to suppose that crude tubercles might have been scattered in the lungs of this person, and have sufficed, on the application of some exciting cause, to determine the hæmorrhage, although as yet their presence was not indicated by any other sign. Almost every systematic writer quotes, as an example of idiopathic hæmorrhage from the lungs, the story of the Roman Governor, mentioned by Pliny, who lived to the age of 90, though he was afflicted with habitual hæmoptysis. Now the frequent citation of this supposed instance is of itself a sufficient proof that spontaneous pulmonary hæmorrhage is far from being common.

Cæteris paribus, the *disposition* to pulmonary hæmorrhage is increased by whatever tends to diminish the capacity of the thorax, and to compress the lungs, or the heart and great blood-vessels. The mechanical congestion thus produced may become a very intelligible cause of the exhalation of blood from the mucous membrane. And it is partly on this principle that we may account for the frequency of hæmoptysis in persons with crooked spines; in tailors, who sit continually in a stooping posture; in young women who lace their stays too tightly; and even in those who labour under dropsy, or other cause of distension of the belly. Hæmoptysis accompanying ascites has been known to cease at once upon the performance of the operation of tapping, and to recur upon the reaccumu-

lation of the dropsical fluid; and this not on one occasion only, but so often and regularly as to preclude all notion of accidental coincidence. There can be little doubt, however, that in this class of cases, or at least in a vast majority of them, the hæmoptysis is mainly to be ascribed to organic disease of the heart or of the lungs; and that the pressure that precedes and determines the bleeding is simply a *concurrent* cause.

If we cannot properly rank *that* pulmonary hæmorrhage as idiopathic, which is constitutional and vicarious of some other natural or morbid discharge,—and most frequently of all of the menstrual discharge in females,—it may be considered as forming a link of connexion; as lying midway between secondary and primary hæmorrhages. There are a great number of very curious and well-authenticated facts upon record concerning this singular form of hæmorrhage by deviation. I will give you one history of the kind by way of sample; it is related by Pinel, who held that there was no supplemental hæmorrhage more common than the hæmoptysis that is vicarious of menstruation.

A female, 58 years old, born of healthy and robust parents, of strong constitution, of a sanguine and plethoric temperament, and of great sensibility, lived in the Salpêtrière, and was therefore under constant observation, from the age of 14. She enjoyed excellent health till she was 16 years old. In her 16th year the menstrual discharge commenced without mishap or difficulty; but this, her *first* menstruation, was suddenly suppressed, in consequence of the fright and agitation produced by the sight of an epileptic patient in strong convulsions. From that time the catamenia *never* reappeared, nor did any kind of discharge take place from the genital organs; but at the next period, when regular menstruation ought again to have come on, the girl was attacked with violent hæmoptysis. The hæmorrhage was preceded by vague pains in the uterus and loins, and by other symptoms which frequently announce the catamenia. It lasted two days, during which time the girl expectorated nearly a quart of blood. With one interval of exception only, this female continued to menstruate *through her lungs* at each monthly period, from her 18th to her 58th year, *i. e.* during 42 years of her life. The coming on of the hæmorrhage was sometimes a little accelerated by strong mental excitement; sometimes a little retarded by causes of a contrary nature. It was suspended during one whole year without any serious impairment of the general health, or the occurrence of any other hæmorrhage: during this interval, however, the patient suffered most severe

headaches. Occasionally the hæmoptysis was complicated with hæmatemesis. The symptoms by which the pulmonary hæmorrhage in this instance was generally preceded or accompanied were the following:—a sensation of weight and uneasiness in the loins and in the situation of the uterus, soon followed by chilliness of the surface, general lassitude, and a feeling of oppression and heat in the chest, with some dyspnoea. The face became red, and she had intense headache. Then she began to have a distinct sensation of pricking, and of a sort of bubbling in the trachea and about the commencement of the bronchi; then followed sharp cough, and the expectoration of blood, often bright-coloured and frothy, sometimes of a darker hue. The duration of the hæmoptysis was generally confined to a single day, and it never exceeded three days. It recurred with tolerable exactness at monthly periods; sometimes the interval was longer, and then the hæmorrhage continued longer, but with less intensity; and upon the whole, about the same quantity of blood was lost on each occasion. This woman continued plump, and otherwise healthy, though liable to some thickness of the breath upon unusual exertion.

Cases of this kind are not at all uncommon; although the vicarious hæmorrhage seldom continues so long and so steadily. They are not usually attended with any peril to life.

It is, however, a melancholy truth, that the hæmorrhage which takes place by exhalation from the mucous membrane of the air passages, is dependent, in a very large proportion of instances, upon incurable disease. The hæmorrhage is secondary; and the disease of which it is symptomatic is usually a fatal disease. And the complaint of which hæmoptysis is by far the *most frequently* symptomatic, is tubercular phthisis. When the tubercles are found upon dissection to be yet crude and entire, and no breach can be detected in the membrane, then no doubt can be entertained about the source and manner of the bleeding; and even when cavities exist, especially if they are found to contain no blood, it is probable that, in most cases, the hæmorrhage has had a similar origin.

When hæmoptysis is thus actually symptomatic of tubercular disease of the lungs, it is liable to considerable variety in regard to the period of its first occurrence, and the symptoms by which it is succeeded. There are many persons in whom the first attack of hæmoptysis precedes, even for years, the primary symptoms of unequivocal phthisis. There are others in whom the first attack of hæmoptysis is *immediately* followed by all the signs which announce the existence of tubercles in the lungs. Many, again, do

not spit blood until the tubercles have acquired a considerable degree of development, and the phthisical symptoms have been for some time clearly marked; and sometimes, in these cases, the first hæmorrhage proves fatal. Lastly, it is far from being an uncommon thing to see pulmonary consumption run its whole course, and terminate in death, without having been attended with any spitting of blood.

Andral gives the following statement as the result of his own observation, in regard to the relative frequency of these several modes of connexion between hæmoptysis and consumption.

Of the persons whom he had known to die of that disease, one in six never spat blood at all. Three in six (or one-half of the whole number) did not spit blood until the existence of tubercles in the lungs was already made certain by unequivocal symptoms. In the remaining two-sixths the hæmoptysis preceded the other symptoms of tubercular disease, and *seemed* to mark the period of its commencement.

By this comparative statement you will see how very frequently hæmoptysis occurs as one of the symptoms *connected* with tubercular phthisis. Under this physician's observation it happened in five cases out of six. In the experience, however, of M. Louis, the proportion, though very large, is not quite so great as Andral found it. Among eighty-seven instances of consumption, there were fifty-seven, or four in every six, in which hæmoptysis had been present.

It has, however, been made a question, whether the spitting of blood which thus occurs in *connexion* with tubercular phthisis, is always to be considered as indicative of the *existence* already of tubercles in the lungs; or whether it may not sometimes precede, and give occasion to, their formation in those organs. This question has evidently been suggested by those cases (constituting, according to Andral, one-third of all that happen) in which the ordinary signs of phthisis *begin* to manifest themselves immediately upon the occurrence of the first hæmoptysis, or within a short time afterwards. Morton, who has noticed this kind of pulmonary hæmorrhage, includes among his *species* of phthisis, the "phthisis ab hæmoptœe;" and Cullen held that *spitting of blood* was *often* the *cause* of pulmonary consumption. It is a very important question, and I shall revert to it again hereafter.

Next to *tubercular* disorganization of the *lungs*, the most frequent source of pulmonary hæmorrhage is to be found in organic disease of the *heart*. It has been stated by Chomel, Bouillaud, and others, both in this country and abroad, that the disease in these cases is most commonly situated in the *right*

chambers of the heart. But this is certainly a mistake. The error has arisen from arguing upon erroneous analogies, instead of attending to matters of fact. However, the statement is just as little supported by reason as it is by the result of general experience. The only alteration in the right cavities of the heart which we could suppose likely *à priori* to cause pulmonary congestion, and thereby hæmoptysis, would be increased strength and thickness of their muscular parietes; hypertrophy: a morbid condition which is comparatively rare on that side of the heart, and which, perhaps, would not suffice for the production of hæmoptysis, even if it did oftener exist. The direct effect, on the other hand, of any *obstacle* to the free passage of the blood in the right chambers of the heart, would be to gorge the *liver*, and the system of the *vena portæ*; and to prevent the lungs from receiving their due proportion of blood. But any material obstruction existing in the *left* auricle or ventricle will impede the return of the blood *from* the lungs, lead to its accumulation in those organs, give rise to mechanical congestion, and so dispose strongly to pulmonary hæmorrhage. And, in point of fact, we find that hæmoptysis is very frequently the result of disease in the left side of the heart; and this leads me to speak here of one very remarkable morbid condition of the lungs, which is often directly connected both with pulmonary hæmorrhage and with cardiac disease; though it is not *always*, or *necessarily*, associated with either.

The morbid state to which I allude is far from being infrequent; yet it had been scarcely noticed by or known to pathologists, until Laennec described it under the title of *pulmonary apoplexy*. It appears under two forms. In the one form we find an uncertain number of hard knobs, or compact masses, situated here and there in the substance of the lungs, chiefly in their lower lobes, and towards their posterior surface. Their size varies from that of a marble to that of a hen's egg. When cut through they are seen to be very exactly circumscribed, the cut surface being more or less circular, of a uniform and very dark colour throughout, and exhibiting a strong contrast with the surrounding tissue. Careful examination shews that these masses are composed of blood that has coagulated in the pulmonary vesicles. *Occasionally* the pulmonary substance seems broken down, or torn, by the extravasated blood; and in these cases, perhaps, the resemblance between the injury done to the lung, and that which is inflicted on the substance of the brain in *cerebral* hæmorrhage, is tolerably close. Generally, however, there is no such laceration of the pulmonary tissues; but

one, or more, of the *lobules* of the lungs, are gorged and crammed with blood, which has been poured out from the surface of the mucous membrane. These lobules, it is well known, have no direct communication with each other; but are isolated (except where they severally open into the bronchial tubes from which they spring) by a distinct investment of cellular tissue; and it is to this peculiarity in *their* structure and disposition, that the exact circumscription of the dark-red indurated masses is to be attributed.

In the other form of pulmonary apoplexy, there are fewer of these solid spots; perhaps one only, large, diffused, occupying sometimes nearly the whole of one lobe, its limits obscurely defined, and its colour gradually deepening to the centre, which is obviously formed by little else than a black clot of blood.

Now the principal *symptom* attending the formation of these masses is *hæmoptysis*; and the principal though not the only *cause* is disease of the heart. The hæmorrhage is often severe and copious in the first, or circumscribed form: sometimes slight and scanty, but commonly slow, oozing, and persistent, in the second or uncircumscribed form. The heart disease is in its left chambers, and very often consists in contraction of the mitral orifice. No example of pulmonary apoplexy, or of pulmonary hæmorrhage, even *apparently* dependent upon hypertrophy of the *right* side of the heart, has ever fallen under my notice.

In truth the morbid condition of the lungs which I am now speaking of, has been badly named. The application, by Laennec, of the term *apoplexy* to the *lungs* was singularly unfortunate: for it suggests an analogy between two things, which, though resembling each other in the appearances which they leave behind them in the organ affected, are yet, essentially, unlike. I have shewn you, in a previous part of the course, that cerebral hæmorrhage depends almost always upon the giving way of a blood-vessel, in consequence of the morbid brittleness of its coats: while what is called pulmonary apoplexy can very seldom indeed be so caused. The notions which I have been led to form upon this subject differ materially from those which you will find expressed in the works of almost every writer on pulmonary apoplexy. The opinions I entertain were stated several years ago, in some lectures which I was appointed to deliver before the College of Physicians; and I have constantly been in the habit of mentioning them to the pupils of the Middlesex Hospital, and to my medical friends. It is a matter of satisfaction to me to find that they are esteemed to be correct by so sound a pathologist as Dr.

Carswell, who has alluded to them in one of his fasciculi on the *Elementary Forms of Disease*. Laennec speaks of the pulmonary apoplexy, as if *it* were the *cause* of the hæmoptysis. But this is surely a very incorrect view of the matter. The partial engorgement, and the hæmoptysis, are not mutually connected with each other as cause and effect, but they are *concurrent* effects of the *same* cause; of that cause which gives rise to the extravasation or exhalation of the blood in the first instance. A part of the blood so extravasated passes outwards by the trachea and mouth; while a part is forced in the contrary direction, into the ultimate divisions of the bronchi, so as to fill and block up the whole tissue of a single lobule, or of a bunch of contiguous lobules, and thus arises the *circumscribed* variety. Andral conceives that the sanguine effusion *takes place* in the ultimate air-cells; and he applies to this form of disease the term *pneumo-hæmorrhage*, to distinguish it from ordinary hæmoptysis, which he calls *broncho-hæmorrhage*; and this I believe to be the true pathology of the *uncircumscribed* variety. But it seems to me vastly more probable that in the other form of the complaint the seat of the effusion is in one or more of the larger branches of the air-tubes; and that the blood, a part of it at least, is driven backwards into certain of the pulmonary lobules, by the convulsive efforts to respire which the patient makes when threatened with suffocation by the copious explosion of blood, or by a paroxysm of cough and extreme dyspnoea: especially if the blood is poured out from the membrane while the chest is in the state of *expiration*. It is easy to understand how certain portions of the lungs, without undergoing any actual change of texture, may in this manner be so choked up, and crammed with blood, which afterwards coagulates, as to preclude any subsequent admission of *air*.

This view of the formation of circumscribed pulmonary apoplexy affords an easy explanation of some of the phenomena attending it, which it would be difficult to account for on any other supposition: I mean, first, the occurrence of *several* of the clots or masses of blood, in different, and sometimes in distant parts of the lung at the same time; and secondly, the exact manner in which they are commonly bounded and limited to certain lobules. And if (as is sometimes, though seldom, the case), even the texture of the lung be lacerated, it is easier to conceive that this may happen in consequence of the violence of regurgitation during the struggle of impending suffocation, than that the mere impulsion of a thickened muscle at the centre of the circulation should be capable of driving the blood through the

walls of an artery with sufficient force to tear and break down the substance of the lung around it.

In the diffused or uncircumscribed form of pulmonary apoplexy, the congested lung is not relieved by a sudden and copious gush of hæmorrhage, but the impeded and stagnating blood oozes slowly through the vessels containing it into the neighbouring interstitial and vesicular tissues, clogs up a larger and larger space, and is partly expectorated in separate dark-red sputa, combined with a certain quantity of mucus. A similar condition of the lung sometimes occurs in *purpura hæmorrhagica*, without any mechanical impediment to the passage of the blood into and through the heart.

The belief that the dark-coloured, circumscribed spots seen in the lungs, and spoken of as pulmonary apoplexy, are often, if not always, produced in the manner I have just been describing, was suggested to me by the observation of a case, in which these appearances existed, and in which they *certainly were* so occasioned. I told you, when speaking of *cynanche tonsillaris*, that I had seen one person, and one only, die in consequence of that complaint; and that his death was occasioned by the laying open of the lingual branch of the carotid artery in the progress of ulceration. The phenomena attending that patient's dissolution were of deep, but of painful interest. I described them to you before. He had been taken out of bed, and laid upon a table in the ward, in the middle of the night, in order that Mr. Mayo might more conveniently place a ligature upon the carotid. Suddenly the bleeding burst forth afresh: and he expired, before our eyes, in the course of two minutes; not from syncope or exhaustion, but evidently suffocated. The blood entered and choked up the trachea, and he had not strength enough left to expel it by coughing. I felt his heart and the artery at his wrist pulsate firmly for some little time after the last attempt to dilate the chest had been made. This you know is what always happens when death takes place from the sudden denial of air to the lungs. We found the upper surface of the glottis covered by a clot of blood. There was blood also *in* the wind-pipe; and scattered through the substance of the lungs there were numerous, hard, and dark, but not very large masses, precisely resembling those described by Laennec as constituting pulmonary apoplexy. This man had shewn no symptoms of any pulmonary complaint; nor was there any morbid appearance in his lungs except those which resulted from the presence of the blood that had been poured into them through the trachea, and rammed home into some of the air-cells, in his con-

vulsive attempts to breathe. All that I have observed since this case happened, has tended to confirm my belief, that what has been erected into a distinct form of disease, under the objectionable name of *pulmonary apoplexy*, is simply an *accident of pulmonary hæmorrhage*. When hæmoptysis has occurred, to any amount, in *consumption*, it is by no means uncommon to find pulmonary apoplexy after death; and Dr. Latham has mentioned to me, in conversation, one remarkable instance of that disease, strongly corroborative of the doctrine I have been endeavouring to support. A young female patient of his, labouring under confirmed phthisis, was attacked, for the first time, with hæmoptysis. The bleeding was so profuse as to cause almost immediate death by suffocation. Her lungs were found riddled with small tuberculous cavities; and each of these little cavities contained a little clot of blood. Surely it is more credible that the blood should have reached each cavity by regurgitation from the larger air-tubes, than that each should have been the seat of an independent hæmorrhage at the same moment. It is by a similar reflux of blood that the appearances are produced which characterize the circumscribed form of pulmonary apoplexy.

Upon the whole, the occurrence of hæmoptysis, considered in reference to the probable duration of life in those who are the subjects of it, is of melancholy omen.

I have long arrived at this conclusion:—that if from any given number of persons who have been known to spit blood, we subtract those in whom that symptom was connected with irregularity in the uterine functions, there will remain but few in whom the symptoms did not depend upon disease, incurable and progressive in its nature, in the lungs, or in the heart: and that if we still farther subtract those persons in whom the hæmorrhage was symptomatic of cardiac disease, there will be very few indeed left, in whose lungs the existence of tubercles may not be confidently predicated.

You will, of course, understand that I do not include in this estimate of hæmoptysis as a prognostic symptom, those cases in which (as in simple bronchitis) the expectoration is merely *streaked* with blood: nor those in which small quantities of blood are intimately combined and amalgamated with the bronchial mucus, and form the rust-coloured sputa so indicative of the presence of pneumonia;—nor those in which the hæmorrhage is the consequence of mechanical injury to the chest.

Of those individuals whom Andral had known to spit blood at some period or other of their lives, there was only one in five whom he did not also *know* to have tuber-

cular phthisis. On the other hand, Louis states that for three years he asked all the patients who came before him, in the practice of a large hospital, and who were *not* affected with phthisis, whether they had ever spat blood; and the answer was always in the negative, excepting only a few instances in which the patients had received violent blows upon the thorax; and the cases of females in whom the menstrual discharge had been suddenly suppressed.

The quantity of blood which is brought up in different cases of pulmonary hæmorrhage, is extremely variable. Sometimes it is so copious and overwhelming that the patient either dies suffocated, or he dies of syncope, outright: but this is not very common. Sometimes, on the other hand, a small quantity of blood finds its way into the mouth, the patient scarcely knows how. And between these two extremes there is every gradation in respect to quantity.

“When blood is thrown out by the mouth (says Cullen), it is not always easy to determine from what internal part it proceeds; whether from the internal surface of the mouth itself, from the fauces, or adjoining cavities of the nose, from the stomach, or from the lungs. It is, however, very necessary to distinguish the different cases.”

Now the diagnosis between hæmorrhage from the lungs and hæmorrhage from the stomach, in other words between *hæmoptysis* and *hematemesis*, I shall not enter upon, until I have described the latter disease. And the diagnosis between hæmorrhage from the fauces or cavity of the mouth, and hæmorrhage from the lungs, can never be very difficult, if once the doubt suggests itself, and the necessary examination of the mouth be made. And I would advise you not to omit that inspection. I could tell you of cases in which the neglect of this simple precaution has led to needless activity of treatment, and to the ultimate discredit and disadvantage of the practitioner. Blood may ooze into the mouth from spongy gums, or drip from the posterior nasal orifices, and be at length spat out in considerable quantity. Etymologically speaking, these are cases of *hæmoptysis*; but they do not constitute the particular disease or symptom to which alone nosologists have agreed to restrict that term. The sources of the bleeding are manifest as soon as they are carefully looked for.

Patients who are subject to hæmoptysis generally know by experience when it is about to happen. It is frequently preceded by some uneasy feeling within the thorax—pain, or a sense of weight, or of heat or of pricking, beneath the sternum, with anxiety; and they tell you that they

taste the blood in their mouth before it comes up, *i. e.* they perceive a saltish taste; and just before the blood appears, a tickling sensation is experienced about the top of the larynx. To relieve this sensation, the patient coughs or hawks a little, and a certain quantity of frothy and florid blood is expectorated.

In a person disposed to pulmonary hæmorrhage, the bleeding may be determined by a variety of causes; which ought to be pointed out to him, in order that he may avoid them. Any thing which hurries the circulation will, of course, have a tendency to excite the hæmorrhage. Straining of any kind; great efforts of the body; active exercise; much talking; and more especially public speaking, or singing, or playing on wind instruments. A diminution in the superincumbent pressure of the atmosphere is supposed to be, in some cases, sufficient to bring on hæmoptysis; and blood is said to have been forced even from sound lungs, in persons who have ascended very high mountains, where the atmosphere is rare, and where the pressure upon the surface of the body is sensibly diminished. Perhaps the labour of the ascent may have shared in the production of the hæmorrhage; for I am not aware that any such effect has ever occurred to persons who have much more rapidly reached a very great altitude in balloons.

Auscultation and percussion do not stand us in much stead in cases of hæmoptysis, as far as that *symptom itself* is concerned. Indeed, if they were capable of affording us information, it would in most cases be superfluous; for we *see* the blood, and we can generally satisfy ourselves that it comes from the *lungs*.

But pulmonary hæmorrhage may occur without hæmoptysis. In what is called pulmonary apoplexy there is extravasation of blood; and it is not always attended with the expulsion of a portion of the extravasated fluid through the mouth. Laennec and others pretend to say, that when there is blood in the bronchi, they can distinguish by the peculiar character of the crepitation to which it gives rise that it *is* blood, and not mucus; that the bubbles, passing through a thinner liquid, are larger, and break oftener, than those produced by the passage of air through viscid mucus. This distinction is too subtle for me. If, indeed, there has been hæmoptysis, and especially if the hæmoptysis has been sudden and copious, and if, after it, you hear large crepitation in one or more isolated parts of the lung, it will be reasonable to conclude that the air-tubes contain blood in those parts. Those lobules that are plugged up with blood, to the entire exclusion of air, will not, of course, be the seat of any sound during respiration; but this limited absence

of sound will be scarcely appreciable unless the infarcted portion lies near the surface of the lung. Around the spot thus rendered solid the sound of crepitation may be audible.

Yet, although the method of auscultation furnishes but little help towards the *detection* of pulmonary hæmorrhage, it will often afford us most precise and valuable information respecting the disease of which the hæmorrhage is a consequence, and an index. Thus, it will frequently teach us, with absolute certainty, that the heart is diseased, or that the lungs are occupied by tubercles. The precise sounds, or deficiencies of sound, which supply the key to this knowledge, I shall describe when I come to those disorders.

Whatever may be the source and organic cause of the hæmoptysis, the bleeding should be stopped as soon as possible: not, however, merely by *suppressing* it, but by relieving the necessity on which it depends. The longer it is suffered to continue, the more likely is it to add to the damage which already, in too many cases, exists in the lungs. If it leads to the formation of blocks of pulmonary apoplexy, the portions of lung so filled up are rendered useless for a long period, and probably for ever. Now as in most cases the hæmorrhage is a hæmorrhage by exhalation, and depends upon congestion, active or mechanical, we shall stay the hæmorrhage if we remove the congestion.

The congestion may be either mechanical or active when it results from the presence of tubercles in the lungs; it is almost always mechanical when it depends upon disease of the heart. The tubercles may press upon the blood-vessels, and so lead to mechanical engorgement; or they may provoke by their presence an active determination of blood to those organs, just as we know that they often provoke inflammation, which is congestion and something more; and just as any foreign body lodged in the lung may cause either the one or the other of these conditions.

Frequently there is a distinct febrile movement accompanying the hæmorrhage: the heart beats with increased force and frequency, the cheeks are flushed, and the skin is hot; sometimes the pulse is quite hard, and full and bounding, and people speak of such a pulse as a *hæmorrhagic* pulse. Now I mentioned in a former part of the course, that hæmorrhage occurring under such circumstances as these often works its own cure; but it is better, when an organ so vital and important as the lung is the seat of the effusion of blood, that *we* should cure the bleeding than that it should cure itself—that we should diminish the congestion with which it is linked, through the safer channel afforded by the veins of the arm. The patient is to be surrounded with

cool fresh air. His head and shoulders should be elevated. He should be restricted to the most meagre diet; and be forbidden to exert himself, or to speak more than is absolutely necessary. His bowels should be freely purged, in the first instance, and then *kept* lax and open, both with the view of deriving (as it is called) from the thorax, and of preventing costiveness and straining. And, in conjunction with these measures, he should lose blood from the arm. The amount and the repetition of the bleeding must be determined by the circumstances of the case; *i. e.* by the cessation or continuance of the hæmorrhage, and especially by the condition of the *pulse*. It would be idle to attempt to lay down precise rules on this matter. We do not bleed, however, so resolutely and perseveringly in hæmoptysis as we are often obliged to do in acute inflammation.

A prejudice has been taken (such, at least, I think it) against *local blood-letting* in pulmonary hæmorrhage. Inasmuch as leeches applied to the groins in amenorrhœa appear sometimes to restore the catamenia, so they have been thought likely, when applied over the surface of the chest, to attract the blood somehow to that part of the body, and even to *cause* hæmorrhage when none before existed. Now I have so many times taken blood from some part or other of the exterior of the thorax by leeches, or cupping glasses, without observing any such effect, of causing hæmoptysis, or of increasing it while already present, that I cannot help considering the objection rather a fanciful one.

When the fever and congestion are abated; or when there has been no constitutional disturbance, and the hæmorrhage has shewn a passive character from the beginning, and a continuance of it, so far from being curative in its nature, is likely to be injurious; then we are to employ those remedies which have been found efficacious in restraining and suppressing hæmorrhages.

Now of the substances which are held to possess more or less of a specific virtue, when taken internally, in arresting the efflux of blood, the sugar of lead, the *plumbi acetate*, enjoys in this country the highest reputation. And it certainly is a very serviceable remedy. Dr. Paris speaks of it as one of the most valuable resources of physic; and says that in respect to its power over internal hæmorrhage there is nothing *simile aut secundum*. He states also that its use is equally safe and manageable. There is, in fact, no doubt of its efficacy: but most other writers use very cautious language in recommending its employment. Physicians have been deterred from giving it by the fear of its poisonous qualities; by the dread of producing the disease

called *colica pictonum*. Cullen observes that the preparations of lead are certainly powerful in controlling hæmorrhage, but that they are otherwise of so pernicious a character as to forbid their use except in cases of the utmost danger. Of late years this drug has usually been administered in small doses, and guarded by opium; and it is to this combination that Dr. Paris refers when he declares it to be a safe and manageable remedy. More recently, however, a statement has been made by Dr. A. T. Thomson, which must be considered of much importance if farther experience shall show it to be well founded. He was led, it seems, by some accidental circumstance, to suspect that lead acted as a poison upon the human body, only in the shape of its *carbonate*. And the result of a series of experiments upon animals satisfied him of the correctness of this notion. He holds, that when the acetate of lead produces the well known symptoms of the painter's colic, it does so in consequence of its being somehow converted, after its reception into the body, *into* the carbonate: that this conversion may be obviated by a very simple expedient; and that the remedy may then be given with perfect safety in large and efficient doses. The expedient is merely that of washing down each dose by a draught containing some dilute acetic acid, which prevents the decomposition of the acetate by any carbonic acid that happens to be present in the intestinal canal. In this way he tells me he has given as much as fifteen grains daily for ten days together, without any inconvenience, and with most excellent effect upon the hæmorrhage. I have often exhibited lead in this manner; and I have never known it give rise to any unpleasant consequences. At any rate this method of administering it deserves farther and careful enquiry.

In slight cases of hæmoptysis, the mineral acids are often sufficient; or, if there be feverishness, the saline draught with nitre and digitalis. Of the numberless other drugs which have been vaunted as specific in hæmorrhage I have very little personal experience; at least in pulmonary hæmorrhage. In certain other forms of internal bleeding there are some of them that are worth trying. But in hæmoptysis there are none I can venture to *recommend* but such as I have now mentioned. You may sometimes be urged to give a celebrated quack medicine—*Ruspini's styptic*, which has obtained a high repute, and sells at a high price. This nostrum seems for a long while to have baffled analysis. The late Dr. Wollaston told Dr. Maton that it contained no metallic substance; Dr. Thomson has since announced that it mainly consists of a solution of gallic acid in alcohol diluted with

rose water. But I believe that all the remedial agents which contain gallic acid are more effectual in another form of internal hæmorrhage, to be mentioned hereafter.

CLINICAL LECTURES,

BY J. CLENDINNING, F.R.C.P. F.R.S.
And Physician to the St. Marylebone Infirmary.

LECTURE II. DELIVERED NOV. 8, 1841.

Acute Rheumatism.

ACUTE rheumatism is amongst the most common and painful diseases of this country, and especially in winter and spring, and in the variable weathers, or what we might call equinoctial seasons that usher in winter and terminate spring. Rheumatism is seldom fatal directly, yet it is a frequent cause of death. Owing to its favourite, and, I might say, its proper seats being the organs of locomotion, viz. the muscular, ligamentous, and cartilaginous parts of the trunk and extremities, and the bursæ of and about the joints, its morbid actions commonly expend themselves outside of the cavities in which are contained the vital organs, and derange the nobler parts indirectly only, and probably through the intervention of morbid conditions of the blood. But to this observation there are many exceptions. Rheumatism unfortunately does not always abstain from visiting the vital parts. Rheumatic conditions of an inflammatory character occurring in the joints are occasionally seen to subside, and be immediately or quickly succeeded by urgent visceral mischief. Sometimes the internal disease appears to have been really simultaneous with the articular affection in its origin, and, as it were, a joint effect of some common antecedents or causes; and in this case the visceral mischief, as the more important of the two, often absorbs and supersedes the other; but sometimes also they advance together, each aggravating, rather than not, the other. Sometimes the development of the internal disease is preceded or accompanied by the subsidence of the previous articular disease; and in such cases it is said that a *metastasis* or change of seat of the morbid action occurs, from the external to the internal part.

In this last class of cases the part attacked is commonly, I think, either the brain, the heart, or the bowels. Those are the parts that I have seen most frequently attacked under such circumstances, but other organs occasionally suffer. Of all the vital organs, however, that are susceptible of injury from rheumatism, the heart is now well known to be the organ especially exposed to it. This

pathological law was overlooked a good deal until lately, and, so far as I know, was first distinctly pointed out within the last fifty or sixty years, or at least in the course of the second half of the last century. And now the tendency to error is in the opposite direction; so much so indeed that a distinguished author has laid it down that one-third, if not one-half, of the cases of acute rheumatism of the joints involve inflammatory mischief in the heart alone. Of this connexion between rheumatism in the joints and acute affections of the heart and pericardium, examples are often, as might perhaps be anticipated, met with in our wards, and the case that I am about to bring to your notice is one of that class. The following is the history of the symptoms, treatment, and results, with the post-mortem appearances of this interesting case.

CASE I.—S. C., æt. 16, admitted Oct. 14, 1841, ill of acute rheumatism. The patient had been four days ill on her admission, and ascribed her complaint to getting wet feet. She was a slender, rather delicate-looking girl. She had never menstruated; she had had good health until the beginning of the present attack; her feet, hands, and arms, and her ankles also, and wrists, are all painful; she complains of some soreness of the throat, but nothing can be observed in the fauces except slight swelling. Several of the articulations, especially those of the phalanges of the fingers, are red, swollen, and tender; she is unable to use her hands or feet from pain, very slight exertion causing much suffering; her pulse is 112, and pretty full and strong; her tongue is coated, and brownish in the centre; her bowels are confined; her face has a feverish expression; has no sleep from pain. The heart's impulse and sounds are normal. Ordered by Dr. Boyd, in the absence of the physician of the week—

Mist. Ammon. Acetat. ℥iss.; Vini. Colchici, ℥xii. 8vis horis. Hydrarg. Submur. gr. iij. statim. Haust. Sennæ postea. Broth diet.

15th.—Bowels still confined.

Enema Terebinth. mane.

Somewhat relieved at my visit to-day, but still considerable fever; pulse 100, full and strong; thirst; urine high coloured; sleep disturbed by pain.

V.S. ad ℥viiij. at 1 P.M.

16th.—Less feverish; feels better she says; slept last night; bowels open once to-day; tongue white; pulse 100; pains less; thirsty; appetite bad; blood drawn buffed, with ample and firm clot.

Pulv. Doveri, ℥ss.; Calomel. gr. ij. h. s.

18th.—Pulse 88; moderate strength;

tongue white; bowels three times moved to-day, four times yesterday; hands and wrists still red, swollen, and painful.

Hirudines viij. carpis.

Ordered, instead of the previous mixture,

Antimonii Tartrat. gr. $\frac{1}{2}$; Liquor. Morph. Bimeconat. ℥v.; Mist. Camphor ℥iss. 6tis. horis Mist. Cretæ, p. r. n. si opus sit.

20th.—The symptoms as at last visit. The emetic tartar is well borne; I therefore increased the dose, and added Colchicum. Sumat. Antimon. Tartrat. gr. i.; Liquor. Morph. Bimecon. ℥v.; Træ. Colchici, ℥x.; Mist. Camph. ℥iss. 6tis horis. Mist. Cretæ, p. r. n. si opus sit.

21st.—Slept sound last two nights; pulse not quick, but full and strong; looks feverish; bowels open twice since yesterday; no pain acknowledged or complained of, except tooth-ache.

Fish diet.

22d.—Says she feels better; pulse tranquil; sleep good; fingers and feet quite flexible without pain; bowels rather purged; no appetite.

Decoct. Cinchon. ℥i.; Træ. Colchici Comp. ℥xv. 6tis horis. Mist. Cretæ quando opus sit.

23d.—Says she feels quite easy in every respect, and gaining strength; bowels rather relaxed, three times to-day; pulse moderate; appetite deficient.

24th.—Last evening (23d, 8 P.M.) something occurred to suggest to the resident physician the possibility of some inflammatory mischief about the præcordia. On being pressed with the hand, and asked for precise answers, she denied feeling any pain there. But being an unintelligent girl, and afraid of leeches, her denial was disregarded, and half a dozen were applied about the epigastrium, and poppy fots afterwards employed. Bowels open once since yesterday; slept well, according to nurse and neighbouring patients, though badly according to her own account; pulse slow and soft enough apparently; but the expression still feverish; eyes, however, quite clear and bright; no tenderness of præcordia or abdomen on pressure acknowledged by the girl.

26th.—Died unexpectedly and suddenly this morning; had taken a little porridge (prepared for her by her own desire) with milk, and expressed herself as feeling very comfortable before 8 A.M. after which, without convulsion or apparent suffering of any kind, she sank back, and soon became lifeless. She had had a bad night from cold feet, but had no delirium. After the proper interval her remains were examined.

Post-mortem appearances.—There was no hair on any part of the body except the head, though she was sixteen: the mammae were as little developed as in a boy of the same age: the uterus was no larger than the last phalanx of a moderate sized finger: the ovaries were like those of a child of eight or ten: the pelvis also appeared rather small and undeveloped. The heart and pericardium, and the great intestine only, presented decided evidence of disease. The heart itself was normal in its volume, &c. and in its cavities; but the right auricle was slightly adherent to the pericardium and heart by its opposite and normally free surfaces, by means of very soft recent lymph. Traces of incipient lymphous exudation were seen farther down on the body of the ventricles near the fundus. In the colon were some red patches, and about the sigmoid flexure a few minute ulcerations.

Observations.—This, then, was a case of acute articular rheumatism cut short by pericarditis; and, according to the views of the older pathologists, it might be considered as a case of metastasis of rheumatic inflammation from the joints of the fingers, &c. to the pericardium.

REMARKS.—Respecting the indication of treatment in this case, there can be as little doubt, so far as the original disease was concerned, as there can be about the diagnosis. Rheumatism of the joints, in its severe forms, declares itself at once on inspection; the swelling, redness, tenderness, immobility, which are present, in one degree or other, cannot be mistaken. In like manner the treatment is obvious in all cases like this of asthenic, or high inflammatory character. Anodynes, diaphoretics, perhaps blood-letting, perhaps purgatives, low diet, quietude, &c. &c. present themselves at once to the mind.

In the case just related the principal means used were colchicum in moderate doses; blood-letting from the arm to eight ounces; and by eight leeches to the wrist, and six to the abdomen at the epigastrium; antimony in half-grain, and afterwards in grain doses every six hours; chalk mixture occasionally to check purging; and latterly, for four days preceding death, decoct. cinchon. with colchicum, &c. She had likewise an aperient the first day of treatment; and on the third day an anodyne at night of Dover's powder (℞ss.) and calomel (gr. ij.) which was not repeated. Her diet was low for the first week, until the pulse had fallen, and the articular inflammation had subsided, when fish was given her.

Diagnosis.—Now the points in this case that invite notice are several. It appears from the post-mortem appearances that pericarditis must latterly have existed in this case, although under such circumstances as

to escape detection. These fallacious circumstances were the following:—It has been stated, in the reports of the examination on the second day of treatment, when I first saw her, that the impulse and sounds of the heart were normal. I might have added that no defect of form or resonance about the præcordia was then, or at any subsequent visit, complained of or acknowledged. This observation of the normal character of the heart's sounds and impulse was made on repeated occasions while the pulse kept up; but was not sufficiently watched for, as now, made wise by the event, we can at once perceive, after the subsidence in great part of the general feverishness and of the local inflammations, about the commencement of the second week of treatment. The apparent gradual resolution of the original disease, on the one hand, together with the entire absence of tenderness or pain about the præcordia, as reported by the patient, led to this oversight. Had minute examination of the cardiac region been made daily, towards the close of life, I am disposed to think that we might have detected the inflammation of the heart. The active friction shewn to take place between the auricles and the fundus cordis internally, and the auricles and loose pericardium externally, in the systole more especially of the auricles, by our experiments made in this place, last year, (*LONDON MEDICAL GAZETTE*, vol. i. 1840-41), convince me that it may have been possible, by very close and minute attention to the stethoscopic phenomena, to have detected some trace of the cardiac affection. But in hospital practice, or indeed any other practice, we do not, and cannot, always accomplish all that ulterior events may render desirable, nor in most cases can we do more than may appear at the moment of action to be necessary or expedient. The daily repetition of the physical method of examination so often found troublesome, because unintelligible to patients, is apt to become, unless suggested by actual signs or suffering, irksome even to the physician. Doubtless, for those that think, with Professor Bouillaud, that cardiac mischief may be expected in every second or third subject of acute rheumatism, it is a positive duty to take the trouble, and give the sick the annoyance, that daily repeated examinations imply. But I have already intimated that I differ widely from that pathologist on the point. His estimate, in fact, accords neither with what I observe in the living or in the dead.

Cause of sudden death.—A second remarkable feature in this case is the slight organic injury that seems to have cut short life. The pericarditis, whether we judge by the symptoms during life, or the appearances post-mortem, seems to have supervened, so

as to have been but incipient towards the close of life; and the form of death was that of syncope more nearly than any other, and falls therefore naturally into the class of deaths commencing at the heart. My own explanation of the early termination of the case is this. The girl appears to have been originally of feeble constitution. This is shewn by the imperfect development of the sexual system (noticed above under the head of post-mortem appearances), indicating deficient formative energy in a leading system of the frame, and rendering probable an original inadequacy of vital power in her organism in general. Her, in all probability, naturally defective constitutional powers, were of necessity much reduced by the primary disease and its sufferings, and by the remedies that disease indicated for our use; so that the pericardial inflammation supervening towards the close of an acute attack that had called for depletive and other debilitating means, found the subject unequal to a second struggle with disease. She sank accordingly by syncope, without any fresh complaint made, or any new remedy applied that was likely to cut her short by exhaustion.

Caution.—A third point illustrated by the case is this—that the natural difficulties of diagnosis may be in any case (as in many cases it is certain they are) greatly enhanced by want of intelligence or of veracity in the patient; and that in examining patients, of unknown intellectual habits and capacities, it is unsafe to rely on the answers given farther than they may seem probable in themselves, and compatible with such organic conditions and other facts, whether favourable or otherwise, as we may ourselves be enabled to verify or detect. But on this subject, which belongs to the head of concealed and feigned disease, I have already stated my experience and views in this place, (LONDON MED. GAZETTE, vol. i. 1839-40): suffice it to say now that I have no doubt that I was in this case misled to some extent by the patient, from the childish fear of the pain of leeching, &c. Happily no harm resulted. It is clear to me that she must immediately have succumbed to efficient antiphlogistic measures.

Remedies.—A fourth topic for notice is the selection and success of remedies; and under this head I shall offer a few observations on the use of the lancet and leeches, on the use of tartar emetic, and on that of bark. Of the lancet you will find me to make but little use in general in rheumatism, and from the following considerations. 1. The subjects that come under my care have, for the most part, civic health and habitudes, and do not often display in sickness that constitutional vigour that at once demands and sustains under copious depletion. 2. The law of

rheumatism, it is on all hands admitted, is, that, in the great majority of cases, the disease expends itself on the limbs and parietes of the great cavities commonly; so that no immediate or direct danger to life can well occur, except in cases characterized by a reaction relatively excessive, and therefore exhaustive of the vital powers. So that, by merely moderating morbid action, and for the rest trusting to the great Retriever Time, we obtain as much success as can be looked for from active treatment, without incurring the danger of throwing the patient into a state of anæmious cachexia and debility. Now to obtain such mitigation of symptoms as I have alluded to, I seldom find the lancet needful.

But of local blood-letting by leeches I often make use, and with the best effects. Both modes of blood-letting were employed in this case cautiously, and with decided benefit; and the effect of the leeching was enhanced, if I rightly recollect, by the use of evaporating lotions applied after the cessation of the bleeding; though this remedy has been somehow overlooked in my notes of the case.

With respect to the use of the tartar emetic in this case, it was employed as a substitute, in great part more safe and little less powerful than bleeding. In half grain, and grain doses, in combination with opium, it was well borne, and produced good effect given after purging.

With respect to the decoct. cinchonæ, I ordered it with a double object—partly as a vehicle, and partly as an auxiliary of colchicum. The excellent effects obtained by several distinguished practitioners of the latter half of the past century from the use of bark in rheumatism, is familiar to most medical men. The form of the remedy chosen by them was the powder generally: that form I have never used. The preparation I prefer is the decoct. cinchon.; and the bark I should most rely on is the red, or that which contains most tannin, and is most astringent, and relatively least bitter. The bark employed in making the decoct. cinchonæ of the Pharmacopœia is, I believe, either the yellow bark or the pale, either of which has little superiority over quinine in such cases, so far as I can judge.

After the bowels, &c. have been sufficiently cleared, and the fever sufficiently abated, I think the time is generally arrived for the exhibition of bark in decoction. So it was in this case; and it appears in most cases expedient to combine with the decoction either colchicum, iodine, or opium. If there be still some remnant of fever, and the urine high coloured, then colchicum is indicated. If the tumefaction of the joints continues with little or no fever, and with much diminished tender-

ness, then iodine is required; and under any circumstances, if pain be urgent, especially at night, so as to interfere seriously with sleep, then opium is loudly called for. In this case colchicum was combined with the decoction, and with apparent advantage; and opium was not given at night, except on one occasion, because she was reported to sleep well enough naturally.

Tubercular disease of the lungs.—I shall now take you to the male side of the infirmary, and again bring under your notice examples of chronic disease. Students, I am aware, are most interested by the study of acute disease of every kind, and for several reasons, of which the principal, I imagine, are these.

1. That acute affections in general give more scope for the exercise of tact and sagacity in diagnosis and prognosis, and a greatly larger field for the successful use of powerful remedies. Their duration is comparatively short, and their different stages present themselves in quick succession: their symptoms are more striking, less complex, and less liable to become subdued or disguised by the influence of time and habit. Thus, to the youthful mind, eager for results, the slow march, and tardy development of chronic maladies, render the study of those diseases comparatively unexciting, tedious, and even repulsive; while the briskness and bustle and urgency of acute complaints, gives them an adventitious value and interest in the students' eyes. Yet, to the practitioner, chronic disease is by much the more important class of the two. In promiscuous practice, embracing all sorts of cases, such as the practice of the general practitioner of England, or the official practice of this house, there is for each acute case treated, perhaps half a dozen cases having a chronic character. Most of the diseases, in fact, in our nosology, are chronic more or less throughout their whole course; and of cases commencing with acute symptoms a vast proportion pass into the chronic form before death or recovery. It will be necessary, therefore, for me to draw your attention again and again to the symptoms and treatment of chronic diseases. On this occasion I shall bring under your notice two cases of tubercular pulmonary disease—a disease of which possibly one-tenth or one-twelfth of all the cases that pass through this infirmary exhibit traces more or less distinct. On this occasion, also, the cases adduced are presented as examples not of cure (though so far both are greatly better, and seem not unlikely very soon to leave the infirmary sufficiently restored for their occupations), but as instances illustrating satisfactorily enough, so far as they go, the diagnosis and management of one of the most frequent and least tractable of our organic diseases, as appear-

ing in forms of no uncommon occurrence in practice in this city.

CASE I.—J. G. æt. 45, a servant by occupation, admitted into the chronic ward October 13, 1841. The patient is a slender delicate featured subject; high coloured, although very spare; twice in his life since boyhood he has had what he calls brain-fever; four to five years since had some spitting of blood for a short time; has been subject to cough in winter for some years; he has not been well since November 1840, having then been attacked in the chest, and having continued ill, with remission of symptoms occasionally, ever since. At present there is great difficulty of breathing; respiration short, quick, and with effort; his lips are of a bluish red, their natural colour being coral; there is much distress evinced by restlessness, moaning, and sleeplessness; headache very severe; cough very troublesome, with much frothy expectoration; pulse very feeble, and rather quick, about 100; he complained of pain in the region of the right lower lobe of the lungs. On physical examination of the chest, signs of tuberculation of great part of the right lung and of bronchitis all over the chest were readily detected. The right subclavian region in particular was less full and convex than the left considerably; the upper lobe of the right lung was deficient in expansibility, as shewn by the comparatively slight elevation and depression of that organ in respiration; the resonance, on percussion, was deficient on the same side in the subclavian axillary and scapular regions; there was but very little vesicular breathing in the part, but instead a hoarse cavernous or tracheal rhonchus: excepting the lower part of the right side and the head, he complained no where of pain. His tongue and bowels, and, in a great measure, his appetite, were normal.

Sumat. Mist. Ammon. Arom. ʒiiss.; Liq. Morph. Bimecon. ʒss. o. n. Infricetur. Unguent. Nitrat. Argenti, ʒss. lat. dol. et repetet. vesp. si opus sit. To have three ounces of wine daily: fish diet.

15th.—At my next visit I found him much relieved; expression of distress gone from the countenance and attitude for the most part; head better; fever less; anodyne draught agrees well, and conciliates sleep as desired; side still painful, relieved by former application.

Infricetur iterum uti antea Ungt. Nitrat. Argent. lateri.

18th.—Continues to improve; expectoration still troublesome.

Haust. Mist. Tragacanth. Comp. ʒiiss. c. Spir. Ammon. Arom. ʒss. 4tis.

20th.—Relieved much in his breathing;

pain of side abated; fever less; appetite good; sleeps better; cough much abated; sputa partly mucous and frothy, partly tough and globular, or what the French sometimes call nummular, but less in quantity; pulse slower; better in all respects.

Two chops daily instead of fish.

22d.—Doing well, but complaining of tightness under the sternum, and apparently seated about the bifurcation of the trachea.

Repet. Ungt. Argent. loc. dol.

27th.—Continues to mend.

To have half a pint of ale at dinner; three ounces of wine daily as before.

31st.—Greatly improved; no difficulty of breathing whatsoever; very little cough; sleeps well with the sleeping draught; bowels and appetite normal; colour fresh, clear, and even florid, as when in best health nearly.

Nov. 1st.—Continues to improve in every respect functionally.

Pergat.

5th.—Has steadily improved to the present time, dyspnœa and pain of side having been absent for several days altogether, and the cough and expectoration being much abated; the nutrient function also being quite normal, and the voluntary powers greatly improved: he has been for a considerable time up all day and about the wards, and prevented from taking exercise in the garden only by the season and weather.

Before making any observations on the preceding case I shall relate the particulars of another case of the same class and species of disease, but differing from the former in some points worthy of notice.

CASE II.—S. M., æt. 55, cabman, admitted September 18, 1841: had been previously for some time an out-door patient, but was then made an in-patient. He reported that for five or six months he had had cough; and that about four months since he had hæmoptysis for the first time, which had recurred occasionally since then. When admitted an in-patient his obvious symptoms were principally those of severe bronchitis; he had very troublesome cough, with much wheezing in respiration; he had considerable dyspnœa, from which he had not been free at any time for several months; he was very feverish; had much expectoration, partly globular and tough, partly frothy and mucous; he was very thin, nervous, and debilitated. I was prevented from minutely examining him immediately on his admission, and on account of his symptoms having soon become mitigated considerably under the remedies prescribed by Dr. Boyd, I did not for some time explore the chest by the physical method. The means first employed were—

Sept. 18th.—Mistur. Scillæ et Æther, ʒiss.; Vin. Ipecacuan, ℥xij. ter quotidie, vesicatorum sterno. Fish diet.

22d.—On account of diarrhœa ordered

Mistur. Cretæ, ʒiss. p. r. n. Appetite pretty good. One chop, for fish.

27th.—Complaining of weakness and languor.

Mist. Æther Comp. ʒiss. 6tis.

29th.—Relieved by the stimulant, but still complaining of languor, with chilly fits almost daily.

Mist. Æther Comp. ʒiss.; Spir. Ammon. Arom. ʒss. 4tis q. q. h.

Oct. 1st.—Much complaint still of weakness, with lowness of spirits; pulse very feeble, rather small, but not very quick.

To have four ounces of gin daily until next visit.

4th.—Chilliness much complained of until the stimulant had been some time in use; since then abated, but still returns almost daily once at various hours, and very irregularly, sometimes at night, sometimes in the morning, and at other times on some days, but on the whole more frequently in the forenoon than at any other time. On close examination of the patient, who was not very intelligent, it appeared that the chilly attacks were of some months' standing, and were generally followed by heats, and the heat by more or less sweating, but the latter was often indistinct. Ordered—

Mist. Æther Comp. c. Solut. Quinin. Sulph. ʒi. 4tis q. q. h. (Quinin. Sulph. gr. i.) Continue gin four ounces daily.

8th.—Complains of pain in the epigastrium accompanying the chills, and leaving some tenderness to pressure afterwards.

Infricetur Unguent. Argenti Nitrat. Epigastrio.

12th.—Chilly attacks mitigated; cough troublesome.

Haust. Linctus Scillæ, ʒi. p. r. n. vel urgent. tussi.

16th.—Ague-like fits abated, but not suppressed; functional derangement generally abated; principal physical signs continue as before, viz. the two subclavian regions are deficient in expansibility and resonance, and have very little vesicular penetration or breathing, but the right side is worse than the left, being flat instead of more or less convex, and motionless nearly instead of being dilated and elevated in inspiration, and contracted and depressed in expiration: no distinct gurgle or pectoriloquy is perceived, but catarrhal murmurs are still extensively audible, and bronchial if not cavernous

breathing is heard on the right side; the dulness of resonance on percussion is perceived on the right side in the axillary and supra-spinous regions. On account of the persistence of ague-like fits, ordered—

Liquor. Arsenicalis, ℥iv.; Mist. Tragacanth Comp. ℥iss. ter quot.

20th.—Some pain of stomach, and apparently more than formerly, attributed to the chilly attacks, and possibly excited by the arsenic.

Spt. Liquor. Arsenic, ℥v.; Mist. Tragac. Comp. ℥iss.; Liquor Morph. Bimecon. ℥. v. bis quotidie.

27th.—No more pain of stomach; arsenic agrees; complains of some pain under sternum, like that of bronchitis; cough not very troublesome.

Infricetur Unguent. Nitrat. Argent. sterno.

29th.—Complains of sore-throat, with some difficulty of swallowing; nothing visible on examination: probably tracheal, and like what so often occurs in phthisis.

Infricetur Unguent. Nitrat. Argent. laryngi.

31st.—Both the applications (of 27th and 29th) gave the relief desired speedily.

Nov. 3d.—Has had no return of chills last night, without heat, &c. following; bowels, which had been slow latterly, apparently on account of the opiates used, are kept regular by daily use of pilulæ aloes dilut. gr. v. ad x.; has been up and about the wards all day for some weeks now, but unable to go to the garden on account of the weather.

Diagnosis.—Now these two cases correspond closely in the main points. Each has nearly all the marks, whether functional or physical, of tubercular disease of the lungs. Looking back towards the beginning of their complaints, each had been liable to winter cough, with more or less dyspnoea, for some years, and each had had hæmoptysis. Now the former, I mean winter cough, is a suspicious circumstance in all cases where the supposition of tuberculation is not excluded by other considerations. Such, for example, as old enlargement of the heart, or emphysema of the lungs, or Bright's disease, or asthma; for any of these latter affections would sufficiently account for the liability to cough, &c. in the cold season, without the existence of farther mischief. And as to hæmoptysis it is the general impression of medical men that hæmoptysis scarcely ever occurs in subjects free from disease of the lungs or heart. The exceptions to this rule are too rare to create any difficulty, viz. cases of purpura or scurvy in which the blood easily escapes through the membranes into the interior channels of the viscera; and certain cases of hysteria and vicarious men-

struation: the high value of this symptom has been recently arithmetically demonstrated by Louis. Both patients had, further, on their admission, unequivocal present signs of pulmonary disease. A cursory glance shewed in each difficulty of breathing, harassing cough, copious expectoration, mucous or muco-purulent—fever, pain in the chest, and slightly augmented by respiration. One of them had severe headache, and both the expression of much distress in the breathing. These symptoms might be those of severe bronchitis with fever. But they had each the tongue nearly normal, and had their appetites; and their bowels and urine were apparently in a natural state; their pulses were hurried, but were not disordered proportionally with the pectoral distress, as in true fever or visceral inflammation. So that, without any help from physical signs, I should have more than suspected the true nature of the present attacks. But the results obtained from inspection, manipulation, percussion, and auscultation of the chest, added to the functional signs already noticed in the antecedent history, rendered the diagnosis quite unequivocal for every practical purpose. It has been long a familiar fact in this place, that the apex and upper lobe of the lung is the most frequent seat of disease, and Louis has shewn arithmetically that deposition and excavation occur either exclusively, or at an earlier period or stage than elsewhere, in the upper lobes of those organs. Now the subclavian regions, and axillary and superior scapular regions, (which cover the upper lobe of the lungs) in each of the cases, were unequally resonant on percussion: while in one patient the left regions were normal, and in the other patient they were only less dull than the right. The portion of the chest thus observed to be before, behind, and laterally, dull or non-resonant, was likewise found deficient in convexity or fulness, and in expansibility in respiration, on the anterior part in the subclavian region. All these defects of the right superior regions implied consolidation of the lobe, abolition more or less complete of its air-passages, and diminution in volume of the subjacent lobe, whence the subsidence of the ribs and flatness characterizing the surfaces of diseased regions. These inferences were further confirmed by the results obtained by the ear and ear-tube; for in each case the vesicular murmur, indicating penetration of the lobules of the lungs by air in inspiration, was deficient in a very striking degree, and we observed instead hoarse sounds, like those of bronchitis, with a respiratory murmur resembling that heard on applying the tube to the sternum or trachea. Thus, there can be no doubt that consolidation of the upper lobe existed in each of those persons, and that the disease of the lung was tubercular;

and it was probable that an excavation existed in either right upper lobe; and in one of the cases very probably in the upper left lobe also.

INDICATIONS OF TREATMENT.—Let me, in the first place, make a few general remarks, by way of preface, to my comments on the treatment of these cases:—

Therapeutics of incurable disease.—Diseases divide themselves, in a therapeutical point of view, into two very different classes. One class consists of those disorders which we may consider to be susceptible of complete cure: and the other class, of course, of those diseases which are incurable, either in their own nature or relatively to the present means and resources of our art. Now the treatment of the former class is comparatively simple in principle and uniform in practice. In such cases the physician's duty is to push the sick man forward in the direction of health as directly and speedily as he safely may; and he is bound to employ the most powerful means suitable to the disease, that the constitution and powers of the patient will admit of, and to stop short of nothing less than complete restoration and recovery.

But from this curable class of disorders are excluded almost all organic visceral diseases. We occasionally, it is true, see great rallies, and surprising recoveries, from apparently hopeless maladies. Before the growth is yet complete, while the formative function is still in energetic action throughout the organism building up and enlarging the structures, there is pretty often found vital energy enough in diseased parts to enable them to outgrow, to use a popular phrase, their structural lesions; so that parts wanting are supplied, or parts superfluous are removed, and diseases commonly of fatal result are thus sometimes as completely as unexpectedly recovered from. But in advanced life, or even in a few years after maturity, this self-curative power no longer exists; while it is precisely in adult life that organic disease is most frequent. So that, recurring to the subject of my present remarks, for one case of phthisis met with under puberty, there are perhaps a dozen occurring between puberty and thirty years of age; and many more than occur in childhood are observed at every subsequent period of life of equal length.

The treatment, therefore, of such a disease as phthisis must of necessity be based on different principles, practically speaking, from that of the curable class of disorders. Having in view, not as incurable disease, the restoration of function and structure to the healthy condition, which is pretty uniform in all men, and is a comparatively definite object; but having rather to watch the course of events, and endeavour to regu-

late an infinitely variable series of morbid actions, with no higher ulterior end in view in general than present relief and temporary restoration of comfort and strength, the physician has consequently, in the treatment of phthisis, no governing or constant curative indication to guide him, except, of course, the duty of relieving present distress. He is obliged to abstain from heroic remedies and radical measures nearly altogether, and to content himself with means whose operation is gentle, gradual, and indirect, and whose influence is limited to the removal or alleviation of urgent symptoms, and to the mitigation in general of present suffering, and is not expected to extend to the cure of organic lesion. From all this it follows that, in the practical management of phthisis, the particular indications must vary indefinitely, according to the circumstances of each individual case, and no general formula could be given. In point of fact, the most opposite remedies may, in different cases, or in the same case, at different periods, become necessary. For example, the fullest and most stimulating or sustaining diet that is found to be easily borne by the individual, is the best, according to my experience, in phthisis; yet we are often, in this house, obliged for a time to put our patients on the lowest fare. Again, I object strongly, in general, to blood-letting as a remedy for such cases, and for reasons which I shall take an early opportunity of explaining; yet it is no rare thing for my patients to lose blood, at least by leeching or cupping. For a third example, cathartics, emetics, strong expectorants, mercurials, &c. are doubtful, in my judgment, under most circumstances (as I shall hereafter take occasion to shew you), as being respectively calculated to stimulate certain morbid actions, which are often characteristic of the disease, and causes of a good deal of its suffering and exhaustion; and without compensating advantages; yet each of these means you will see me occasionally induced to employ for special ends and in peculiar circumstances.

So much, before entering on the treatment of these cases, respecting the character of our means, and ends, and practical views in general in their remedial management: and I have spoken so fully because I shall have again and again to bring the subject of tubercular disease under your notice, in one point of view or another; and I wished to avail myself of the present opportunity of disposing of this portion of the subject. Of the remarks just made as to the variable and uncertain nature of the measures proper in phthisis, the cases just related are illustrative examples.

Now the means employed in these cases have been principally the following:—

In addition to quietude with warmth, in

the recumbent posture (to which combined a considerable portion of the relief obtained must be attributed); counter-irritants; anodynes at night (in the first case); sustaining diet; pectoral draughts; occasional ætherial stimulant draughts (in the second case); chalk mixture occasionally (in the second case); and in the same case quinine, and afterwards arsenic for special purposes.

The leading indications, on account of which those remedies were used, were the following:—

1. To relieve dyspnœa and other urgent pulmonary symptoms. Now, this it was necessary to attempt in such a manner as not to aggravate the constitutional debility, and general cachexy or bad habit of body, implied in the tubercular state of the lungs. The most ready way of relieving the dyspnœa, and diminishing, at least for a time, the cough, expectoration, pain of chest, &c. would probably have been by blood-letting, had the subjects been sound in structure, and in possession of ample vital elasticity and energy. But on general grounds, and from personal observation of the risks attending such a course in phthisical subjects, I entirely abstained from drawing blood; and trusted to the kindly influences of quietude, warmth, restricted diet, opiates at night, mild pectorals; and was not disappointed. For, in each case, amelioration soon came: the dyspnœa gradually gave way; the expectoration became more easy, and less copious; the cough became less troublesome; and general ease soon resulted.

In the first case, the repression of the dyspnœa, &c. was followed immediately by improvement in every other function; so that, except mild tonics in the shape of wine and ammonia in moderate doses, no remedy of any importance, I might say, was necessary for general purposes in the after-treatment.

For his pain in the right side an ointment was used, by friction made according to the following formula:—

℞ Nitrat. Argenti ʒj. — ʒiss.; Axungiæ ʒviij. Infricetur loco dolenti ʒss. bis quotidie terve si opus sit.

This ointment produces tingling, heat, &c. followed by a papular and quasi pustular eruption, and gives relief to internal pain with very little suffering to the patient.

The opiates were continued throughout, being found to agree well. In such diseases opiates are precious where the head bears them well, as, in most cases, it can be made to do. Amongst the ever-varying objects and indications of treatment in phthisis, that of securing sleep is amongst the principal, and not second to any, not even to that of effecting the introduction into the system of

supplies of nutriment sufficient to compensate for its losses by defluxion, diarrhœa, night-sweats, &c. The indication of sustaining the general strength and powers of life was further answered by the use of animal food from the beginning. Fish in the first place, and after a day or two roast mutton in gradually increased quantity.

The management of the second did not differ from that of the former, very materially, as to the indications adopted, or the means selected, for giving effect to those indications.

Animal food was given, in the form of fish, at once, on his admission, and continued throughout in the shape of roast mutton.

Æther and gin were employed instead of wine, as in the former case, being stronger; and the latter especially more habitual than any other stimulant to the patient. Opiates at night were not employed in this case, from the cough having been less troublesome during sleep. The most peculiar feature in the case was the nearly daily recurrence of fits of cold, heat, and sweating, closely resembling mitigated ague fits. These chilly or ague-like fits were dependent, I presume, on the local mischief in the lung. Similar paroxysms are recorded by authors in connexion with various collections of puriform matter; as with abscess, I think, in the kidneys, liver, lungs, &c. and even with disease involving no abscess whatever, such as stricture of the urethra. From whatever cause arising, the treatment is nearly the same, so far as internal remedies are concerned. In this case, quinine, with ætherial stimuli, was first tried; but that not answering expectation I ordered the arsenical solution, which, in combination with opium (Liq. Morph. Bimecon) has, for the present at least, brought under that symptom.

The treatment, then, of those cases has been hitherto, for the most part, soothing, sustaining, and expectant only. No debilitating agency whatsoever has been found necessary in either of them; and some of our most effective stimulants and tonics have been employed in each, the fever and pulmonary congestion and irritation notwithstanding, and so far with the most satisfactory effects. How long their present very favourable condition may continue—whether it shall progress to full restoration of strength, &c. as I hope, but scarcely expect—or prove but a transient amendment, to be followed by fresh suffering and additional morbid actions, calling for remedies not previously employed, or for a repetition of the former—a short time will probably determine.

THE VACCINE.

To the Editor of the Medical Gazette.

SIR,

IN my communication in reply to Mr. Coles, I briefly noticed the fact that, so early as the year 1800, at Thame, on the confines of the Vale of Aylesbury, a distinction had been made and announced between common "grease" and the equine disease, and that subsequent observers had confirmed its correctness without discarding the former appellation.

That the term "grease" should have been employed by many persons not practically acquainted with the diseases of animals, to indicate a disease of the horse found to be possessed of identical properties with the vaccine; and that some confusion in its application may have arisen among continental writers, not perfectly aware of its precise meaning, is not much to be wondered at, after its adoption by Jenner, although the inability of Coleman, Woodville, Loy, Sacco, Bunina, Luciano, Toggia, Guiffa, Bartholini, and many others, might have induced a suspicion of its inaccuracy. The retention of the term by some, after the observations of Lupton, Loy, Sacco, La Font, Hertwig, Berndt, and Kählert, which indicate a disease with many distinctive attributes, may, doubtless, be owing partly to the same or similar causes, partly to the occasional coexistence of some of the topical phenomena in both, and, perhaps we may add, to a difficulty sometimes experienced in the diagnosis of their elementary character. Now it is impossible to form a just estimate of the value of the labours of these last-named individuals, or properly appreciate the difficulties alluded to, unless we obtain clear and well-defined notions of the disease commonly called "grease," as well as of the disorders with which it may be associated, or out of which it may arise. Such information we are bound to receive from the most intelligent of our brethren of the veterinary profession. It is very well known, that the most distinguished veterinarians in Great Britain, contrary to the practice of many of their brethren on the continent, recognize as distinct diseases, œdema of the legs—ephemera, weed,

or water farcy—chapped heels, and grease*.

œdema of the legs may be acute, subacute, or chronic. The acute form may be an attendant or consequent of catarrhal and febrile affections, and the phlegmasiæ. When acute it appears suddenly. The subacute and chronic forms may arise from external or internal causes, of corresponding intensity. In all such cases the skin may crack and grease succeed.

Ephemera, weed, or water farcy—a local inflammation of the lymphatic vessels of one of the hind legs. Besides other terminations, this may end in virulent grease.

Cracked or chapped heels, usually preceded and accompanied by œdema, &c. may end in grease.

Inflammation of the skin of the heel, however excited, may induce grease.

Grease is defined† an inordinate and probably modified secretion of the peculiar greasy matter formed, for obvious purposes, by the follicles of the skin of the heel of the horse. It has three stages; a simple, an ulcerative, and a grapy.

Symptoms of the first.—Swelling; skin feels hot, is red, and has a greasy feel, from the exuding oily matter, which clings to the *erect* hairs in the hollow of the heel, from whence exhales a loathsome odour.

Ulcerative stage.—The disease increasing, the skin splits and cracks, and forms ulcerations more or less deep and extensive; greasy discharge, gradually thickening and becoming more offensive, assumes a purulent character. In this stage it will extend, laterally, around the pastern, and upwards, over the back of the fetlock, and even half-way up the back of the leg, with corresponding tumefaction.

Grapy stage.—A peculiar and well-known degeneration of the exuberant granulations, which spring from the ulcerations, chiefly, of the heel; rarely from the pastern or coronet, which spread up the back part of the leg, but never reach the hock.

Parts subject to grease.—The disease never appears on other parts of the

* Youatt—"The Horse;" Perceval—"Hippopathology;" Blaine—"Outlines of the Veterinary Art;" W. C. Spooner "On the Foot and Leg of the Horse;" &c.

† Coleman, Percival, Youatt, Blaine, W. C. Spooner, and others.

skin than that of the heel, and especially the hind heel.

Horses subject to grease.—Those of the least breeding, with coarse limbs; some constitutionally prone to it. A recurrent disease.

Causes.—Proximate; congestion, inflammation. Predisposing and exciting, —almost always local—cold, moisture, local stimulants, direct or indirect, bad stable management —“the child of negligence and mismanagement*.”

Treatment, local.

Occasionally may be said to have a constitutional origin, when occurring under plethora, and then must have constitutional treatment†.

Neither contagious nor infectious‡, though, at certain seasons, in certain situations, under uniformity of cause and circumstance, all the occupants of a stable may be affected.

None of the above mentioned English veterinary writers make any mention of the existence of vesicles or pustules as a part of the phenomena of grease, nor have I seen any allusion to them in the few others with which I am acquainted.

It will be seen, by a reference to the writings of some of the best continental veterinists, that some of the distinctions made in this country between “grease” and other diseases, are not always recognized there, where a difference of opinion exists as to the real nature of that disease.

Professor Delcourt, of Brussels§, describes the disease, known by the French under the title of *eaux aux jambes*, as an erysipelatous inflammation, which affects the extremities of the limbs of monadactyls, and which, neglected, produces great ravages. He denominated it *la phymatose*, says it may be acute or chronic, may attack all four limbs at once, but most frequently the hind ones. It commences with itching and pain at the folds of the pastern, from whence there is observed an oozing of a limpid humour, possessed of a very strong odour, which collects on the hair in the hollow, irritates their bulbs, and the skin is inflamed to a considerable extent, (with augmented oozing of more of-

fensive humour), even to the hock. It then becomes chronic, and gives rise to the several degenerations above described. The disease is more frequently met with among horses of lax and lymphatic temperament, with large coarse limbs, covered with long thick hair, inhabiting wet marshy places. Dirt, filth, acrid matters, and general bad management, are so many causes which favour the development of the disease. Has seen it frequently in young horses brought from Mecklenburg and Holstein to large towns. Here the local causes last mentioned come into action on the predisposition of the animals. The course of the disease is slow in some animals. It will disappear in summer only to return in winter in the stable, or after work in dirt and humidity.

M. Hurtrel d'Arboval, esteemed one of the best and most accomplished veterinary writers in France, informs us* that different opinions have been entertained in France as to the nature of the disease (*eaux aux jambes*). M. Huzard considered it a cutaneous disease, very often chronic, sometimes inflammatory, and sometimes acute; M. Vatel, as a cutaneous inflammation, sometimes acute, more frequently chronic; M. Dupuy, as an ulcerative inflammation of the glands, and mucous follicles of the skin of the pastern, fetlock, and hock; M. Girard, as a cutaneous erysipelatous affection, commencing at the posterior surface of the foot, and extending not unfrequently around and above the pastern, and passing often into the chronic state; M. Hurtrel d'Arboval himself considers it manifestly and essentially a local irritation, exhibiting the characters of an acute inflammation, with a marked tendency to become chronic; and that it is nothing more than a special lesion of the bulbs of the hair, although in its progress this lesion seems to have a more extended seat; hence he thinks it may be compared with plica or trichosis polonica, and perhaps some other affections of man. It is constitutional, or merely accidental. By constitutional he means that it depends on the constitution of the body in general; that it proceeds from a deposition common to the whole constitution; that it is only a

* Youatt's "Horse."

† Percival's "Hippopathology."

‡ Youatt, Percival.

§ Pathologie Spéciale, ou descriptions des principaux Animaux Domestiques.

* Dictionnaire de Médecine, de Chirurgie et d'Hygiène Vétérinaires (2de édition, tom. ii.) Art, *Eaux aux Jambes*.

consequence (necessary perhaps) of the structure of the limbs of certain horses. He defines it as a hideous and disgusting disease, confined to the lower parts of the limbs, particularly of the horse, rarely of the mule or ass; but which some veterinarians believe they have seen in the ox and the ram. Its name (*eaux aux jambes*) is derived from the abundant watery exudation which takes place on the surface of the skin of the diseased parts, which, after being cleaned and dried, falls like drops of water. He concurs in opinion with most veterinarians as to the kind of animals most susceptible, the obvious and most frequent external causes, and the limbs most commonly affected. He describes the disease as preceded by more or less of swelling, for a longer or shorter period, in the affected member, succeeded (occasionally after a considerable lapse of time) by heat and pain in the skin of the tumefied parts, erection of the hair about the folds of the pastern and the heel, gradually extending around and above the adjacent parts. The erection of the hair he considers attributable to inflammation of their bulbs, and the augmentation and alteration of the secretion of the follicles in which they are inserted. The first morbid state, which has no definite duration, does not excite general attention as long as the animal can work, though this is the state in which it is most readily submissive to treatment. Now the acrid secretions neglected become secondary causes of farther irritation, and are confounded with the primary characteristics of the disease. He describes its progress most eloquently and most minutely; says the exudation, scarcely perceptible at first, is limpid, and exists only at the base of the hair, but that it soon becomes acrid, greyish, greenish, sanious, puriform, with a remarkable tenacious, penetrating, disagreeable, and repulsive fetor: it soon collects on all sides. At this period is observed around the place of insertion of each hair a little round opening. These openings have been considered as ulcerations; but he contends that they are nothing more than accidental dilations of the follicles in which the hairs are inserted, although ulceration of the skin ultimately succeeds. The rest of this able and elaborate article contains a critique on the opinions of the English veterinarians respecting the grease,

and its connection with the vaccine; but I shall recur to this when stating their opinions next week.—I am, sir,

Your obedient servant,

ROBERT CEELY.

Aylesbury, Nov. 8, 1841.

SPONTANEOUS DISLOCATION OF THE HIP-JOINT AFTER LABOUR.

To the Editor of the Medical Gazette.

SIR,

IF the case here related should be thought worthy of a place in your periodical, always valuable from the selection of its contents, I shall feel much obliged by its insertion.

Your obedient servant,

J. NOTTINGHAM,

Late House Surgeon to the
Liverpool Infirmary.

Liverpool, Oct. 26, 1841.

August 27, 1841.—I was requested to visit a poor woman, the wife of a labourer in Liverpool, 36 years of age, formerly healthy and strong, and, from her account, belonging to a family presenting none of the characteristics of scrofula, or any hereditary form of disease. Having spoken of other complaints, she said that her hip had been out since her last confinement.

On examination I found the head of the right femur on the dorsum of the ilium, with considerable shortening of the limb; the heel of the affected side being about three inches from the ground when she stands on the opposite foot.

She was married at the age of 18, and had her first child between her 19th and 20th year; has borne nine children, and had one miscarriage of four months.

Her last child, a boy, lived eleven weeks; was born sixteen months ago, after a labour which continued thirty-six hours.

On the fourth day after confinement she had great pain in the abdomen, and difficulty in voiding the urine. Leeches were applied, and such other measures adopted as circumstances seemed to demand.

On the ninth day after her confinement she sat up during an hour and a half; and on the tenth day was attacked by great pain in the right hip, which continued for several days, and for which leeches were applied.

From her account it would seem that some time elapsed before the head of the femur got into the position which it now maintains.

The patient is quite sure that she never had the slightest uneasiness in the hip before her confinement, and had nothing to complain of during her pregnancy saving a varicose state of the veins of the lower extremities.

From the time and manner in which the accident occurred, we can scarcely fail to think that some effect produced by parturient efforts on the bones of the pelvis, was the forerunner of the malady. That the case is unusual, and not easily elucidated, may be regarded as the apology for this communication. The two sides of the pelvis are on the same level; and there is nothing to lead us to suppose that disruption of the pubic or of the sacro-iliac symphysis had ever taken place.

The patient is again six months advanced in pregnancy.

ON THE OPERATION FOR STRABISMUS.

To the Editor of the Medical Gazette.

SIR,

As the very candid and manly statement made in August last, by Mr. Barker, of Bedford, of the failure of the operation for strabismus in his hands, has been manifestly put forward from a desire of a correct estimate of the value of the operation, and not from the "invidious feelings of a prejudiced veteran," I have ventured, during the prolonged silence of abler writers, and more experienced "strabotomists" (pardon me for coining a word) than myself, diligently to search out, and humbly to present to the profession, through your valuable publication, the result of all my cases operated on in November last, and taken seriatim from my register, except those which cannot be inspected or reported, from the patients being completely lost sight of, from change of residence or other causes. I hope you will allow me to observe, that I am not writing from the spirit of controversy, but inquiry, and from the wish (however feeble my effort may be) not only of eliciting information from others, but also of relieving the minds of my professional

brethren, who may, perhaps, not have had cases even so early as mine, from the unpleasant reflection that, notwithstanding all their fond anticipations of success, there is a mischievous meddling agent, in the shape of the rectus externus, at work by day and night to foil them. Mr. Barker's conclusion, it seems, is, that either the pupil will revert to its original position, or that the case will be changed into a divergent strabismus of a severe character; no case has Mr. B. reported, of centralization of the pupil after ten months have elapsed. This, I know, has startled the profession, and through them, the public; and many a cowardly person, subject to the deformity in question, is now justifying his fears and hesitation by the report of such unsatisfactory results of the operation. Without any more preface, I will now give a list of forty-one cases. A larger number might have been reported; but as Mr. Barker says that ten months, at least, are necessary for the accomplishment of divergence, I have only given you those of longest standing.

Forty-one Cases of Strabismus Convergens treated in November, 1840, by Division of Rectus Internus. Results ascertained by actual inspection and report, Oct. 1841.

Thirty-one Cases, where both pupils are perfectly central.

Names of patients inspected.

Florence; Flatt; Drake; Browne; Rudrum; Parker; Jecks; Linstead; Harmer; Golder; Durrant; Watson; Ling; Crane-field; Fell; Steward; Smith; Brooks; Larnder; Gage; Payne; Rumsby; Sexton.

Reported by relatives.

Cooper; Perowne, sen.; Baddley, sen.; Baddley, jun.; Lines; Custance; Gooch; Rogers.

Five Cases, where the pupil of eye treated is perfectly central, with slight obliquity of the other eye.

Todd; Greaves; Singleton; Barnes, sen.; Le Fevre.

Three Cases of complete reversion of the pupil of eye treated to its deformed position.

Redhead; Fairchild; Perowne, jun.

Two Cases where the pupil became external to the central position, or, in other words, the squint was changed to a leer.

Andrews; Barnes, jun. In this case

both recti int. were divided for double strabismus, but only one eye became slightly divergent.

Total, forty-one.

From this it will appear that out of forty-one cases of nearly a year's standing, but two have become, (as Mr. Barker says all his cases have) "turned in the opposite direction;" the others have either reverted more or less, or remained perfectly central; and in most of the latter increased powers of vision have been gained. I, as well as Mr. B., must leave it to be determined by physiologists why the operation is not perfectly successful when the tendon of the internal rectus is alone perfectly divided. I pretend only to facts, not theories; but still cannot refrain from suggesting whether, in the ardour of entirely dividing the fibres of the internal rectus, those of the obliqui (one of which, at least, is able to act as an antagonist to the external rectus) have not also been severed; a circumstance by no means improbable, from the conglomerated insertion of the ocular tendons into the sclerotic. I would also throw out the hint of the propriety of dividing the tendon with a very sharp bistoury upon a finely-curved director (the method I have used) instead of scissors, as the divided extremity of tendon is then less contused, and more capable of making a secondary insertion posterior to its original one, and thus antagonising the rectus externus.

I must now be allowed to urge upon my professional brethren the propriety of bringing forward cases frankly, selected not according to success, but numerical order in their case-books, and thus prove that, although the operation is not certainly and uniformly successful, it has every right to be classed among established surgical operations, inasmuch as it exhibits a fair general average of prosperous results; and what more can be said in favour of any surgical process? The most unpropitious events that happen are, first, reversion of the pupil to its original deformed position; second, slight increased prominence of the globe of the eye; third, divergence to a greater or less extent. I have heard of sloughing of sclerotica, of wound of sclerotica, even to protrusion of humours, but can only imagine these to occur when the patient has been very cachectic, or the operator in-

cautious, rough, or racing against time. I have never seen such accidents in my own practice (and I have had more than 100 cases), and shall therefore continue to practise this piece of surgery, being convinced that it is creditable to the profession, and beneficial to mankind. In conclusion, in spite of my late experience of the irksomeness of the task of hunting up by-gone cases, and the weariness of the pilgrimage we must endure who have to overcome the *vis inertiae* of those whose turn is served, I must join Mr. Barker in entreating those who have had their harvests of squints to inquire into and publish, as far as circumstances will admit, the aggregate results, good and bad, of their cases, in order that we may have more convincing proof than the scanty list of a provincial surgeon can afford. I cannot think that the silence of those gentlemen depends on the failure of their cases, but on the difficulty of re-examination, which men whose hours are constantly and multifariously occupied must feel in a still greater degree than we junior surgeons in the provinces.—I have the honour to be, sir,

Your obedient servant,

FREDERICK BEVERLY DIXON.

St. Giles-street, Norwich,
Nov. 2, 1841.

GUAIACUM IN CYNANCHE.

To the Editor of the Medical Gazette.

SIR,

DURING the last month, five cases of inflamed tonsils have come under my observation. As I have been frequently disappointed in the result of the usual mode of treating this disease, unless where the patient was seen in a very early stage, and where confinement to the house or bed for a number of days was practicable, I felt particularly anxious to try the effect of large doses of guaiacum, as introduced by Dr. Hannay, and brought under the notice of the profession by Mr. Bell in the MED. GAZETTE, and also in that truly admirable little work, Braithwaite's Retrospect.

I am happy to be able to state that in four of these cases the cure was both speedy and perfect, without obliging the patients to desist from their usual occupations, except for about twenty-four hours. The influence of the medicine

over this disease is so well exemplified in the fifth case, that I shall give a more enlarged account of it.

On the 17th instant I was called to attend Master C——t, aged 13 years, of a sanguine, lymphatic temperament, with previous good health. On inquiry I learned that he had been ill for six days, with sore throat and difficulty of swallowing. The throat had been rubbed with hartshorn liniment, and the bowels purged with salts and senna.

Externally, the left tonsil was large, hard, and painful, on pressure. Both tonsils were affected internally, particularly the left: it was so large as almost completely to close up the passage, and appeared very red all round as far as the centre of the roof of the mouth. He complained of great pain shooting from the tonsils to the ear. He could scarcely swallow any thing, and there was a constant discharge of saliva from the mouth. There was considerable fever, while the face was peculiarly expressive of pain and anxiety, and he had slept little for two or three nights. From the history of the case and the appearance of the throat, I had little doubt that suppuration was inevitable.

I ordered him ten grains of powdered guaiacum three times a day, and a warm poultice to the throat. Next morning the countenance was much more natural, and the pain and difficulty of swallowing were greatly mitigated, but the state of the throat was not *visibly* altered. On the 19th all the symptoms were improved; the tonsils rather less, and not nearly so red. From this date till the 21st, the size of the tonsils diminished so slowly that I directed the dose to be increased to a scruple thrice a day. On the 22d there was a very evident improvement; and, on the 26th, the tonsils were perfectly natural, except a spot about the size of a hazel-nut on the left, which I think contains matter.

I have frequently treated cases of cynanche in the *same stage* as the one which I have just recorded with leeches, blisters, tartarized antimony, &c. but invariably, without success; and, on that account, I look on the above as the more interesting and important. I think the guaiacum acts, by determining to the skin, on the principle of counter-irritation; and I have no doubt but it will be found available in the

treatment of some other inflammatory affections connected with the mucous surfaces.—I remain, sir,

Your obedient servant,

JAMES C. L. CARSON, M.D.

Diamond, Coleraine,
Oct. 27, 1841.

MEDICAL GAZETTE.

Friday, November 19, 1841.

“Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso.”

CICERO.

REGULATIONS OF THE COLLEGE OF SURGEONS.

THE Council of the Royal College of Surgeons has shewn some judgment in the New Regulations which have recently been put forth, and which we gave at full length in our *extra limites* of last week. They appear to us to be part of a system which is not yet fully developed, but which we incline to think will be very advantageous to the profession and the public if fairly carried out.

The amended regulations have added six months to the study of the Practice of Physic in a recognized hospital, making it in all twelve months, but the Practice of Physic and that of Surgery may now be followed at the same time, instead of separately, as formerly; so that two objects are gained—an augmentation of study, and a diminution of the time of attendance. The first year, it may be presumed, will be occupied by most students in the laboratory of an hospital or dispensary, or in that of a private practitioner, and the three remaining years at a public hospital and school which has been recognised by the Council as competent for the purposes of instruction. A vacation of three months is allowed in each year: and as the period for the lectures on anatomy is fixed to be from October to May, the principal part of each annual session

must of course be during that season. The time allotted for positive study is twenty-seven months, but by the Regulations they cannot be consecutive. We have reason to believe that the diminution of the term prescribed by the Regulations of 20th August, 1839, has taken place to meet the wishes of the Edinburgh College of Surgeons, and with the view of equallizing the code of regulations for the three Royal Colleges. A slight increase of hospital study in Edinburgh will now effect this object between the London and Edinburgh Colleges.

The increase of the study of the Practice of Physic has taken place, we understand, in consequence of the conferences which were held between the Colleges of Physicians and Surgeons, and the Society of Apothecaries, in the spring of this year, and, we apprehend, with the view of so arranging the system of education, that a member of the College of Surgeons wishing to practise as an apothecary may undergo his examination in Pharmacy, and such points as relate to general practice, by the Society of Apothecaries, without reference to the course of study prescribed by them; and without having been an apprentice. The two examinations form one whole; the one-faculty system being divided into two or more parts, between the existing constituted bodies; neither interfering with the other. We do not precisely know whether this was the real object of the parties, but it is quite evident that the Apothecaries' Act would prevent its consummation, unless repealed, or its offensive clauses were removed: and we hope, for the character and honour of all the parties concerned, that one or other will be done.

The stringent enforcement which is announced, of the registration of students in London at the College, and by their respective teachers in other

places, three times a year, will go far to prevent those false and forged certificates under which many have attempted, and some have obtained, the diploma of the College. Interlineations, erasures, or alterations, now render a certificate inadmissible; and we hope the Court of Examiners and their Secretary will strictly adhere to this resolution. Nothing will, however, fully prevent the evil, but a regular register of attendance kept at each hospital and school; and we trust the time is not far distant when this will be insisted upon every where. The laxity which has taken place amongst teachers of late, has been, and is, very extraordinary with respect to the accuracy of these certificates; and the manner in which some students have falsified them, and then declared in the most solemn manner that they were true, is more extraordinary still. We hear that the College is instituting inquiries into several acts of this kind, and we trust that the guilty will be punished in such a way as will deter others from committing a like offence.

The List of the Members for the current year now published (the College year begins in August), contains, for the first time, the date of each diploma, some of them so far back as 1770, the owners of which, we suppose, are long since dead; but the Council, it appears, have no means of ascertaining this fact, except by calling on the members to register themselves annually at the College during the months of May and June. No great number it seems have done this, as most of the old addresses have been omitted in the present list, and those which have found admission are few and far between. As the Council have, however, announced their intention to omit the names of all members who shall not have registered in 1842 and 1843, the list will, we have no doubt, soon become

sufficiently perfect. The professed object of the Council is, to furnish the public, Judges, Magistrates, Clerks of the Peace, Boards of Guardians, &c., with a correct list of qualified surgeons; and it is so desirable for the bulk of the profession that such a list should exist, that we hope the wishes of the Council will be aided by all the members to the best of their ability. Mr. Warburton proposed in his Bill to tax each member by Act of Parliament, and to make places for a registrar, clerks, &c.; the Council of the College of Surgeons offers to do it for nothing. Independently of the present list containing the names of several hundreds, perhaps thousands, who are dead, the new list will do away with a great evil which prevails in many places, and in Ireland in particular, viz. the practice of erasing the name and date from the diploma of a man who is dead, and inserting that of the person who wishes to appear to be a member of the College. The Council, it is true, by its late announcement declaring all diplomas to be spurious or forged in which alterations or erasures exist, have struck forcibly at this evil; but nothing can be so effectual a protection to the public and the profession as a correct list published annually of all qualified surgeons—a list which any one may purchase for a shilling.

When we compare the present regulations for the Museum and Library, with those which formerly existed, we perceive a great change for the better. The Museum may be said to be open to the public on four days of the week, instead of three, as formerly; it is no longer a private but a great public institution. The disabilities under which the members laboured with regard to it and to the Library, have been removed, and a member of the Council possesses no privilege beyond the members of the College generally, except that of electing into the Council.

The efforts which the Council have made with the Poor-Law Commissioners and the government to secure the employment in all public situations of qualified persons, do them great credit, and they may rely upon it that as long as they continue to act for the advantage of the public and of the profession only, they will meet with the support of both.

The spirit of the above observations will prove to every dispassionate man that we are quite willing to do justice to the members of the Council; but there is one point on which we have always expressed our opinion very strongly against their constitution, and that opinion remains unchanged. We refer to the mode of election into the governing body. In reference to this point we have made some investigation, and find that the average period for a new election is about once a year, and that the average time at which a member enters the Council is about twenty-three years after his admission into the College. Of late years, too, we find that few have become members of the Council until they are 44 years of age. Now from this it is argued, that to place the members of the College generally on a perfect equality with those of the Council in respect to this privilege, none but those who practise surgery only, and who have belonged to the College for twenty-three years, should have the right of voting for members of the Council. We state the argument, we believe, fully and fairly, as used by those who have adduced it; but while we acknowledge its ingenuity, we must protest against its validity. We quite agree that they alone who practise surgery exclusively should be admitted to vote in the election of the Council; but to hold that because, on an average, those who sit in the Council have been twenty-three years in the College, therefore no man should be

allowed to vote who had not been that time in the College, is a complete *non sequitur*. Let not the members of the Council deceive themselves: the present mode of election into that body never was, and never will be, popular. The sooner it is altered the better: because, so long as it continues, all other changes, however numerous and important, are, and will be, regarded with distrust.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

November 9, 1841.

THE PRESIDENT IN THE CHAIR.

A Case of Cyanosis depending on Transposition of the Aorta and Pulmonary Artery. By W. H. WALSH, M.D. Communicated by Dr. Forbes.

THIS was a case of cyanosis in which the origins of the aorta and pulmonary artery were transposed; the former rising from the right ventricle, the latter from the left, while the connections of the venous trunks (pulmonary and cavæ) were natural: the coronary arteries were given off in the usual manner immediately above the sigmoid valves of the aorta: the ductus arteriosus pervious, and wide enough to admit a good sized probe, communicated in the ordinary way with the aorta and pulmonary artery: the foramen ovale open; the ventricular septum not perforated; the walls of the right ventricle were from two to four times as thick as those of the left; the right ventricle had a mitral, the left a tricuspid valve; and the plane of the former was anterior to that of the left.

The aorta and its branches constantly circulated black blood, with the exception of the extremely small quantity of red fluid carried from the pulmonary artery by the ductus arteriosus. The pulmonary artery and its ramifications constantly circulated florid blood, with the exception of the small quantity of black which may have found its way through the foramen ovale from the right into the left auricle. The viscera generally were rather larger than in naturally conformed individuals of the same age [the measurements and weight are given]. The heart was even hypertrophous. Yet the latter viscus was nourished by venous blood only; the former by blood very slightly oxygenized.

The subject of this malformation lived to the age of ten months—a much longer period

than any of the subjects of the few similar cases on record.

A member asked if there was observed any thing remarkable in the performance of the cerebral functions in the child.

The President said that the child had lived so short a time after it came under the author's notice, that scarcely any account of its condition in that respect could be given. In a case of cyanosis recently at St. Thomas's Hospital, on what cause dependent he did not know, the child was fully as intelligent as usual.

On the Operation for the Cure of Hydrocele, by a retained Injection of diluted Tincture of Iodine. By J. R. MARTIN, Esq., formerly Surgeon of the Native Hospital, Calcutta.

IN consequence of an accident of a serious nature which occurred several years ago to a native in the Calcutta Hospital, upon whom the usual mode of treating hydrocele was adopted, viz. that by port-wine injection, the author, in the next case that presented itself, substituted tincture of iodine for the wine. Two common urethra syringefuls were injected, of a mixture made in the proportion of one drachm of the tincture to three drachms of water. Acute pain and faintness followed, which were relieved by the recumbent posture, and the injection was *retained*: the scrotum being moved about so as to bring the fluid into free contact with the vaginal cavity. In five days the patient was discharged cured, scarcely any other treatment having been necessary.

From the time of the occurrence of this case, in March 1832, to the end of 1839, 2393 cases were operated upon in the native hospital, under the orders of the author, in the manner above described: some cases only, in which the tumor was of very great size, having required two syringefuls of the injection.

The author, after entering into the details of many of the cases in which he employed the above treatment, sums up its advantages as follows:—

1. That it is far more simple and easy of performance than any operation before employed.
2. That no serum has in any case been reproduced requiring a second tapping.
3. That little care is required in the after treatment.
4. That the failures are one per cent.
5. That the operation is free from all danger of infiltration of the scrotum, from the quantity of injection being so small, and from its being retained in the tunica vaginalis.

Dr. Mayo called on Mr. Stanley to favour the Society with his opinion respecting the

danger of the injected fluid infiltrating into the cellular tissue.

Mr. Stanley said that, he had heard, with some surprise, the statement made in the paper respecting the frequency of that occurrence. In the great number of cases of hydrocele that had been injected during the last five and twenty years at St. Bartholomew's Hospital, he had not known the accident occur more than three times at the most: of two cases he had a distinct recollection, of a third he was less certain. He did not think there was anything in the author's plan of treatment particularly calculated to render that accident less frequent than it was in the ordinary plan.

Mr. Macilwain said, he thought the accident more frequent than Mr. Stanley did: he had seen three cases which had occurred not to himself, but to practitioners who had called him in in consultation; but he believed that in every case the accident was to be ascribed either to some fault in the patient, or to some want of caution in the operator. It was thought a very trivial operation, and one who had often performed it was apt to neglect those little cautions which were necessary for its security. The rule which he believed was always to be observed, he had heard laid down by Mr. Earle, to whom he was pretty sure no accident had ever happened: namely, to take care, in withdrawing the trocar, to press forward, at the same time, the canula. He did not believe that, in regard to the frequency of the accident of infiltration, any difference at all could depend on the kind or quantity of the fluid injected.

Mr. Perry mentioned a case, one of those he presumed which Mr. Stanley had also seen, in which the infiltration had taken place through the fault of the patient. That case proved, however, that the danger arising from infiltration was not so great as it was represented to be; for by slightly enlarging the orifice through which the trocar had been passed, and injecting warm water into the cellular tissue, all important injury was prevented. His own experience fully confirmed the rarity of these accidents in England.

Mr. Stanley thought the question of chief interest connected with the paper was, not the prevention of infiltration, to which the author's plan of treatment had no particular relation, but the certainty with which the injection of iodine seemed to produce the desirable result. If it were certain that (as the great number of cases by the author seemed to prove) the inflammation thus produced was both set up more speedily, and subsided with proportional speed, so that the disease was both more quickly and more certainly cured than by any other kind of injection, he

thought a practical point of much importance was established.

Mr. Macilwain held that the ordinary plan of treatment by port-wine injections was, with proper care, as certain as any remedy could be. If it often failed it was only because attention enough was not paid to accompanying circumstances. He had heard Mr. Abernethy say, and it was quite true, that for the cure there was a certain degree and kind of inflammation to be produced, and no other, and the production and maintenance of this depended on many circumstances besides the mere injection. He had treated a vast number of cases of this disease, and many of them under most unfavourable circumstances, and the result had been so nearly invariably successful that he was not disposed to abandon the use of wine injection for any other that had been proposed.

Mr. Arnott thought it was much to be regretted that the author had prefaced his paper with remarks about accidents and errors of other surgeons, of which he had not himself been witness, and of which the Society was in no wise called upon to take notice. He had seen some cases in which serous infiltration of the cellular tissue of the scrotum had taken place after the injection, but quite independent of the passage of the injected fluid into it, and he thought it probable that some of the cases that had been referred to as examples of infiltration from accident or carelessness were of this kind. However, the question to be considered was, as Mr. Stanley said, whether the iodine injection were better adapted to produce the requisite degree of inflammation than any other. The author's experience would seem to prove, beyond a doubt, that it was. But there was a circumstance overlooked: viz. the greater tendency to inflammation which it was well known there was in the inhabitants of tropical climates: it was quite possible that this plan might be very successful in India, and yet fail in Europe. However, he believed, for his own part, that if tried in this country, it would be found to succeed better than any other method.

Mr. Charles Hawkins mentioned four cases which he had seen thus treated, but in which the results were not encouraging.

Mr. Perry begged to ask Mr. Acton whether he knew if there were foundation for the reported opinion of M. Ricord on the operation.

Mr. Acton said that though he had been attending M. Ricord's practice at the time when the accident was said to have happened to him, he did not believe that M. R. had ever thrust the trocar into the testicle. He believed that it had been done by a surgeon in Paris, but it was not M. Ricord. He had seen both M. Ricord and M. Velpeau

frequently employ the iodine injection in this disease: he had never seen it produce any ill effect, and his impression was, that it was to be preferred before the use of wine or any other irritant. It was especially preferable to the French mode of injecting wine: for it was in that country customary to make up for the usual weakness of the wine by injecting it hot into the scrotum, a practice which he believed was never adopted in this country, and which he thought might have led to some of the evils attributed to the infiltration of the injection. He had not in any case seen that excessive pain produced which had been spoken of as one of the effects peculiar to the iodine injection. The strength of the injection employed in France was, he believed, one part of the tincture of iodine to two or three of water.

At the conclusion of the meeting, Mr. Acton, a candidate for the fellowship, exhibited to the fellows of the Society a glass syringe, on an improved principle contrived by himself, for facilitating the employment of injections of nitrate of silver, and other metallic salts, into the urethra and vagina.

STATE OF THE PROFESSION.

To the Editor of the Medical Gazette.

SIR,

WE hear now of nothing but medical reform, and I have been amused to see how each writer in his turn thinks he has found out the best mode of remedying every evil. One would reform one branch of the profession; another thinks that an Act of Parliament enforcing such and such regulations is the only means whereby our condition can be benefitted. A few enjoying great reputation, and making splendid fortunes, deny that any change is required; while others pining away in fruitless endeavours to obtain practice, would have nothing short of a total upsetting of the present system.

When we find all crying out—some attacking, others defending—we may very fairly infer that *some evil does really exist*. But what is it? or where are we to expect to find it? I am one of the working class of the profession, and believe it to exist more particularly in our department; but as I conceive it has been many years gradually increasing, so I believe it will be many years before it is entirely eradicated.

Look to the multitude of general practitioners, and then I think it must be allowed that "the over-stocked state" of the profession is the cause of our present misfortunes. To this we may trace the shamefully low amount of pay sometimes insultingly offered, and yet oftentimes very gladly ac-

cepted; and to this again, secondarily, the present position in society occupied by the medical man practising in those places where such is the average rate of remuneration.

Wherever there is abundance of supply, the commodity will be cheap; and, as in trade, this axiom holds good in science also; the consequence is, that numbers having foolishly entered the profession with just sufficient means to take out their diploma, are then obliged to offer their services low in order to obtain their daily bread: and the public, at all times shrewd enough, naturally reason, that if such attendance can be obtained so cheap, what fools to have been gulled so long! And can we blame the people for so reasoning? Is it not just and fair? And are not we ourselves the fools that cause it?

But no evil is beyond a remedy. Examine the returns made since the Apothecaries' Company compelled a longer attendance upon lectures; since then the number of students has very considerably diminished; and does not this circumstance alone very clearly point out the remedy?

Make it by some means (I do not pretend to point them out) *very difficult* to enter the profession, and we shall again hold up our heads; we shall obtain better remuneration, and with that more respect for our calling.

I think, sir, these few hints may be of service, particularly to those who cry out for some great and immediate change: should you be of the same opinion, an early insertion into your widely circulated journal will oblige,

Your obedient servant,

"ONE WHO WAITS PATIENTLY FOR
BETTER THINGS."

Lewes, Nov. 11, 1841.

SKETCH OF MEDICAL REFORM.

To the Editor of the Medical Gazette.

SIR,

I BEG to submit to your readers the following sketch of medical reform, which appears to me to convey the sentiments of a majority of the members of the profession.

1. To form a divisional faculty of medicine and surgery, the three to constitute one national faculty of medicine and surgery in London, Edinburgh, and Dublin, for the government, regulation, and protection of the whole medical profession.

2. To institute in each faculty of medicine and surgery a uniform system of laws and regulations.

3. Each "Faculty of Medicine and Surgery" to consist respectively of the graduates

in medicine of its universities, and of the fellows, licentiates, and members of its colleges, and chartered societies of physicians, surgeons, and apothecaries.

4. Each "Faculty of Medicine and Surgery" to be composed of "members" comprising a "Senate," and "Examining Council."

5. The "Senate" to consist of such members of its faculty as practise medicine or surgery purely (as it is called) or medicine together with surgery or with midwifery separately. Hereafter the Senate to be composed of such members only as are Masters of Arts in a British or Irish university.

6. The "Examining Council" to be composed of such members of its faculty as have been, or may be at the time, lecturers approved by the "Senate" of anatomy, physiology, comparative anatomy, medicine, surgery, midwifery, and forensic medicine, and of the associate sciences of chemistry, pharmacy, botany, and physics.

7. The examination of candidates for admission to the membership of a faculty to be held by the "Examining Council."

8. The number, nature, and form of the examinations for the degrees granted by the faculties, to be determined by the senates and examining councils, and a uniformity of system to be, by the faculties of London, Edinburgh, and Dublin, agreed upon and maintained.

9. The power of conferring degrees and diplomas in medicine and surgery possessed by the universities, royal colleges, and incorporated societies of physicians and surgeons, to cease: such power henceforth to be committed to the three "Faculties of Medicine and Surgery."

10. The faculties to grant degrees of "Doctor of Medicine," M.D.; "Doctor of Surgery," C.D.; and "Batchelor of Medicine and Surgery."

11. "Doctors of Medicine," and "Doctors of Surgery," to be at full liberty to practise medicine purely, or in connexion with one or both of the following divisions of medical science, namely, surgery and midwifery.

12. Doctors of medicine, and Doctors of Surgery, to have their prescriptions dispensed by licensed pharmacists.

13. Bachelors of Medicine and Surgery, being Masters of Arts in a British or Irish university, and dispensing their prescriptions and being of the age of 40 years and upwards, to proceed, without examination, to the degree of "Doctor of Medicine," or "Doctor of Surgery."

14. "Bachelors of Medicine and Surgery" to be entitled to a degree of Doctor of Medicine, or Doctor of Surgery, at the age of 50 years and upwards, on presenting

themselves before the Senate of their faculty, and formally renouncing all further connexion with pharmacy.

15. All fees paid on admission to the membership of a faculty after an examination for the degrees conferred by the Faculties of Medicine and Surgery, to be divided equally between their respective colleges and incorporated societies of physicians and surgeons.

16. The apprenticeship system to be henceforth abolished. In lieu thereof to require a certificate of 12 months' practical pharmacy at a metropolitan or provincial infirmary containing not fewer than 50 beds; and 18 months' practical pharmacy at a metropolitan or provincial dispensary, where not fewer than 200 patients are annually treated, or in the laboratory of a licensed pharmacist.

17. Physicians having the diploma of a British or Irish university, or of a foreign university approved by the "Senate" of a faculty, to be "members" of its faculty; and if practising medicine purely, or medicine either with surgery or midwifery separately, to be admitted into the "Senate:" their names to appear accordingly in the list of the "Senate," "Examining Council," and "Members," to be annually published by each "Faculty of Medicine and Surgery."

18. Graduates of a British, Irish, or foreign university, being members of an incorporated society of apothecaries or otherwise, who conjoin pharmacy with the practice of medicine and surgery by dispensing their medicines, to be "members" of a "faculty of medicine and surgery:" their names to appear among the "members" who are "Bachelors of Medicine and Surgery," in the list to be annually published by each faculty.

19. The christian, surname, and place of residence of all members of the "Faculties of Medicine and Surgery" in London, Edinburgh, and Dublin, including every practitioner of medicine and surgery in the United Kingdom, to appear with their legitimate titles annexed, in a registry to be from time to time published by authority of the "National Faculty of Medicine and Surgery."

20. Practitioners assuming the diploma of a "Faculty of Medicine and Surgery," as likewise all who shall hereafter call themselves surgeons, not being members of a chartered college or incorporation of surgeons of Great Britain or Ireland, or not having been examined and approved for the service of the Queen or the East India Company, to be liable, on proof thereof, to a penalty and public exposure, by order of the Senates of the "National Faculty of Medicine and Surgery."

21. Every dentist, aurist, or oculist, styling himself surgeon, not holding the diploma

of a chartered incorporation of surgeons in Great Britain or Ireland, or to whom a "Faculty of Medicine and Surgery" has not granted a degree of "bachelor of medicine and surgery," to be liable to a penalty to be determined by the senate of the "National Faculty of Medicine and Surgery;" and, on a repetition of the offence, to imprisonment in the Queen's Bench.

22. The Apothecaries' Companies in London and Ireland, and an examining body appointed by the "Faculty of Medicine and Surgery" in Scotland, to form in England, Scotland, and Ireland, respectively, a divisional company of pharmacists: the three to constitute one "National College of Pharmacy," with laws and regulations for governing all pharmacists and druggists.

23. Pharmacists to be alone privileged to receive into their laboratories students in medicine for the purpose of acquiring practical pharmacy.

24. Chemists and druggists in business at the time of the formation of the "National College of Pharmacy," who shall present themselves for examination before a divisional company of pharmacy in London, Edinburgh, or Dublin, to have granted to them, on approval, a license of pharmacist, with the privilege of receiving into their laboratories students in medicine.

25. All fees paid on admission into the companies of pharmacists in London, Edinburgh, and Dublin, to form a fund for the use and benefit of the "National College of Pharmacy."

26. The christian, surname, and residence of all pharmacists and druggists, to appear in a registry to be from time to time published by the "National College of Pharmacy."

27. Midwives examined and approved by two members of a "Faculty of Medicine and Surgery," namely, by a "doctor of medicine" or "doctor of surgery," and a "bachelor of medicine and surgery," to have a license to practise midwifery granted to them by the senate, on transmitting a certificate of examination signed by the examining members.—I am, sir,

Your obedient servant,

J. B.

London, Nov. 4, 1841.

ON THE HARDENING OF THE UNGUENTUM HYDRARGYRI NITRATIS.

THE action of nitrous acid and nitrate of mercury upon the fixed oils and fats has been pretty fully investigated by the continental chemists, and they have divided them into two divisions, viz. the drying oils and the fat oils, according to the effects

that nitrous acid and atmospheric air have upon them. The former of these absorb oxygen on exposure to the air, becoming a transparent hard mass, but are not solidified by the acid. The fat oils, on the contrary, become solid when nitrous acid is added to them, to which the name of glaidine has been given, and which is solid at ordinary temperatures; but if a small quantity of any drying oil (as linseed, poppyseed, hempseed, or walnut) be added to them, it greatly modifies and retards their solidification.

Referring to the very different result, as to hardness and colour, which has been obtained by different manufacturers of Ung. Hydr. Nitr., Mr. Kemp says, "how to account for the difference which exists in the preparation when only olive oil and lard are used, is certainly a matter of considerable difficulty; it probably depends upon the manipulation and the proportion of the ingredients used; and I would ask, whether in some instances the fat oil may not have been contaminated with some oil of a drying nature?"

We had made a passing allusion to this subject in our notice of Dr. Liebig's work "on Oily Acids," before the receipt of Mr. Kemp's communication. It appears from Mr. Alsop's paper "on Ung. Hydr. Nitr.," that the two points upon which the success of the preparation principally depends, are, the proportion of acid employed and the temperature at which the mixture of the acid solution with the fat is effected. We can speak from experience to the fact, that where due attention is paid to the strength of the acid, so as to make the equivalent equal to that ordered in the Pharmacopœia, the ointment never becomes hard or discoloured. On the other hand, when the proportion of acid is deficient, the hardening, we believe, always takes place. This uniformity of result, under the circumstances indicated, would seem to preclude the probability of the consistence depending upon the genuineness of the olive oil, as suggested by Mr. Kemp. We agree, however, with what appears to be Mr. Kemp's opinion, that the hardening of the ointment is most likely caused by the conversion of the oleine into the elaidine. The principal difficulty consists in accounting for the difference of effect where the proportions of acid are different, for if nitrate of mercury and nitrous acid are capable of converting oleine into elaidine, it might be inferred that the change would be most complete, and the ointment consequently the hardest where the largest proportion of acid was used. But this is not found practically to be the case.

We would observe that the conversion of oleine into elaidine is not caused by the action of pure nitrate of mercury or nitric

acid, but is due to the hyponitrous acid which is held in solution in recently made nitrate of mercury, and also in the fuming nitrous acid. It would be important, therefore, to determine whether the nitric solution of mercury, made with excess of acid, as directed in the Pharmacopœia, contains as much hyponitrous acid, as it would if the proportion of nitric acid were smaller. The subject requires a careful investigation, and would afford matter for an interesting paper at some future meeting of our society.—*Pharmaceutical Transactions.*

TRAUMATIC PNEUMOTHORAX,

PRODUCED BY VIOLENT PRESSURE ON THE CHEST.

PNEUMOTHORAX from disease of the lung, and the production of pleuro-bronchial fistula, is not uncommon; but it is very rarely produced by violence applied to the thoracic parietes. Hence the following case, which lately occurred in the hospital of La Pitié, is of some interest. A man, 38 years of age, of robust constitution, was standing with his back to a post, between which and the wheel of a carriage in motion he was forcibly compressed, the wheel being applied to the anterior part of the chest. He fell senseless, and some hours after the accident presented the following symptoms:—General prostration, intense dyspnoea, hard pulse, tympanitic resonance throughout the right side of the thorax, enlargement of that side, with elevation of the intercostal spaces. A dry sibilant metallic râle occupied the middle part of the lung, fixed at the same point, and recurring at each inspiration: scarcely any respiratory murmur; amphoric resonance towards the roots of the lungs. The whole external injury was ecchymosis, with excoriation over the inferior angle of the right scapula. On the left side, where the pressure appears to have been less violent, the resonance of the chest and the nature of the respiratory murmur were not sensibly modified. There was considerable ecchymosis under the conjunctiva at the internal angle of the eyes. Metallic tinkling was very well marked on the next day. Seven bleedings were practised in five days from the time of the accident; the first to a pound, the second a little less, and on the four following days from half a pound to twelve ounces. Abstinence was rigorously enforced. The effusion was gradually absorbed, and the patient is doing well.

The condition of the patient is explained by rupture of the lung and pleura pulmonalis, pneumothorax, inflammation of the pleura, and formation of pus, with obstruction to the return of the blood from the head at the time of the accident; which would doubtless have produced rupture of the

vessels of the pia mater, and apoplexy, had the pressure been more violent, or continued for a longer time.—*Bulletin Général de Thérapeute*, and *British and Foreign Medical Review.*

ON THE

PULSE OF INFANTS AT THE BREAST.

By Prof. TROUSSEAU.

THIS work is founded entirely on numerical investigations: it would be useless, however, to do more than give the results to which they have led. These are as follows:—

In infants, in the first weeks of life, the pulse varies, according to Billard and Trousseau, between 78 and 150; according to M. Valleix, between 76 and 104: at a more advanced age, according to the observations of M. Trousseau, it varies—

In the second half of the first	
month, from	120 to 164
Between the 1st and 2d months	96 - 132
In those from 2 to 6 months old	100 - 162
“ 6 to 12 do.	100 - 160
“ 12 to 21 do.	96 - 104

In girls, after the two first months, the pulse is a little more frequent than in boys; by from 10 to 15 beats more in the minute.

In infants from fifteen days to six months old, the pulse beats, when they are awake, 180; and, during sleep, 121 times in the minute. In infants from six to twenty-one months old, the numbers are 128 during waking, and 112 during sleep.

It follows from these facts that, in a practical point of view, it is difficult, on account of the considerable interval which separates the *maxima* and *minima* in the normal state, to judge of the febrile state of an infant seen for the first time, merely by the frequency of the pulse, unless its frequency be extreme. If, indeed, the normal state of the pulse be known, then an increase in the number of its beats affords a valuable sign. And if, in a sleeping infant, the pulse is 140, or in one that is awake and not agitated, 150, or 155, a state of fever may in general be suspected.

On the whole, however, with the child at the breast as with the adult, the frequency of the pulse has no value as a symptom, unless it be combined with other functional disturbances, and especially with changes in the temperature of the body.—*L'Examineur Médicale.*

TESTIMONIAL TO SIR B. BRODIE.

To the Editor of the Medical Gazette.

SIR,

NEARLY two years ago I subscribed to a medal for Sir Benjamin Brodie. Can you,

or any of your readers, inform me whether it has been presented to him, or what has been done with regard to it?—I am, sir,
Your obedient servant,
A SUBSCRIBER.

Nov. 15, 1841.

[Perhaps some of those officially concerned will put it in our power to answer this.—
ED. GAZ.]

ST. BARTHOLOMEW'S HOSPITAL.

RESIGNATION OF DR. LATHAM.

DR. P. M. LATHAM has resigned the office of Physician to St. Bartholomew's Hospital. Dr. George Burrows, the senior assistant-physician, will, we believe, be elected in his stead; and the vacancy which his promotion will produce will, it is most probable, be filled without opposition by Dr. Black, Physician to the Dreadnought Hospital Ship.

ROYAL COLLEGE OF SURGEONS.

LIST OF GENTLEMEN ADMITTED MEMBERS.

Friday, November 5, 1841.

G. Bransby.—A. C. Fenoulhet.—W. F. Daniel.—J. Hudson.—E. Ingoldby.—B. Evans.—R. T. Frere.—F. G. Browne.—R. Brown.—F. Ranger.—R. Gee.

TABLE OF MORTALITY FOR THE METROPOLIS.

Shewing the Number of Deaths from all Causes registered in the Week, ending Saturday, the 6th Nov. 1841.

Small Pox	5
Measles	18
Scarlatina	14
Hooping Cough	38
Croup	10
Thrush	5
Diarrhœa	9
Dysentery	2
Cholera	0
Influenza.....	0
Typhus	25
Erysipelas	3
Syphilis	1
Hydrophobia	0
Diseases of the Brain, Nerves, and Senses ..	134
Diseases of the Lungs, and other Organs of Respiration.....	266
Diseases of the Heart and Blood-vessels	18
Diseases of the Stomach, Liver, and other Organs of Digestion	55
Diseases of the Kidneys, &c.....	3
Childbed	12
Ovarian Dropsy	0
Disease of Uterus, &c.	1
Rheumatism	1
Diseases of Joints, &c.	2
Ulcer	0
Fistula	0
Diseases of Skin, &c.....	0
Diseases of Uncertain Seat	110
Old Age or Natural Decay.....	52
Deaths by Violence, Privation, or Intemperance	24
Causes not specified	5
Deaths from all Causes	813

UNIVERSITY OF LONDON.

BACHELOR OF MEDICINE.—SECOND EXAMINATION.

November, 1841.

TWENTY-ONE candidates presented themselves at this examination; and of these the following have passed (the names being arranged alphabetically in two divisions):—

FIRST DIVISION.

	<i>Medical Schools, &c.</i>
Blake James	University College.
Carlill, John Burford ..	University College.
Francis, D. J. Thackwell	Guy's Hospital.
Gull, William Withey ..	Guy's Hospital.
Heaton, John Deakin ..	Leeds, and Univ. Col.
Miller, William Allen ..	King's College.
Nevins, John Birkbeck	Leeds, Guy's, & County of Dublin hospitals
Noyes, Henry George ..	Guy's Hospital.
Paley, Wiliam.....	London Hospital.
Parkes, Edmund Alex...	University College.
Potter, John Phillips....	University College.
Savage, Henry	University College.
Sewell, Charles Brodie..	University College.
Smith, Edward	Birmingham & Paris.
Way, William	University College.

SECOND DIVISION.

Bateson, Henry	Guy's Hospital.
Meryon, Edward	University College.
Powell, James.....	University College.

METEOROLOGICAL JOURNAL.

November.	THERMOMETER.	BAROMETER.
Wednesday 3	from 38 to 50	30·19 to 30·23
Thursday . 4	40 49	30·25 30·27
Friday . . 5	42 49	30·24 30·28
Saturday . 6	39 53	30·32 30·29
Sunday . . 7	37 51	30·28 Stat.
Monday . . 8	38 50	30·22 30·21
Tuesday . 9	39 49	30·18 30·10

Wind, N.E. on the 3rd; S.E. on the 4th, and following day; S. on the 6th; W. on the 7th; S.W. on the 8th and 9th.

On the 3rd, generally clear. The 4th and 5th, overcast. The 6th, morning cloudy, otherwise clear. The 7th, morning overcast, afternoon clear, evening foggy. The 8th, generally cloudy. The 9th, a general overcast.

Wednesday 10	from 43 to 52	30·03 to 29·99
Thursday . 11	44 53	29·90 Stat.
Friday . . 12	35 50	29·53 29·46
Saturday . 13	34 44	29·38 29·20
Sunday . . 14	30 39	29·02 29·36
Monday . . 15	24 35	29·41 29·28
Tuesday . . 16	23 31	29·31 29·48

Wind S.W. and N.W.

On the 10th, generally cloudy. The 11th, morning overcast; a little rain fell about half-past 10; afternoon and evening clear. The 12th, morning cloudy, raining very heavily during the early part of the morning; otherwise clear; showery between 2 and 4 P.M. The 13th, morning clear, otherwise overcast; raining generally from about 4 till 8 P.M. The 14th, morning overcast, with snow and rain; otherwise clear; wind boisterous during the afternoon and evening. The 15th, evening clear; otherwise overcast. The 16th, quite clear.

Three Meteors seen in the East, between half-past 8 and 9 on the evening of the 11th.

Two Meteors seen in the North-East, about 9 on the evening of the 14th.

Rain fallen, ·725 of an inch.

CHARLES HENRY ADAMS.

WILSON & OGILVY, 57, Skinner Street, London.

THE LONDON MEDICAL GAZETTE,

BEING A
WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

FRIDAY, NOVEMBER 26, 1841.

LECTURES

ON THE

PRINCIPLES AND PRACTICE OF PHYSIC,

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BY DR. WATSON.

Pulmonary Emphysema; vesicular and interlobular. Anatomical characters of vesicular emphysema; physical signs; general symptoms; causes; treatment. Interlobular Emphysema: its anatomical characters, symptoms, causes, and cure. Œdema of the lungs. Phthisis Pulmonalis.

I HAVE yet one or two morbid conditions of the lungs to consider and to describe, before I go to that which is the most common and most extensively fatal of all its morbid conditions—tubercular phthisis.

Emphysema pulmonum.—There is a state of the lung, or rather there are two or three different states, to which Laennec has applied the name *emphysema*. A very injudicious name it was for him so to impose. We are infinitely indebted to Laennec for the entirely new light which his able researches threw upon the morbid anatomy and the pathology of the lungs: but we have to regret that he should have employed, in several instances, a vicious nomenclature. *Emphysema* is a term that had long been familiar among medical men in a certain sense. It was used to express the inflation of the cellular tissue of the body with air: and surgeons still make much of it as an indication, in cases of fractured rib, that the bone has grazed the pleura, and allowed air to pass into the cellular tissue, and to diffuse itself over the chest and neck, and other parts; so that these parts, when pressed, convey a curious sense of crackling to the finger. But *emphysema* of the lung, as that

term is employed by Laennec, includes dilatation of the air cells of the lungs, and rupture of the septa which separate them from each other; and also the infiltration of air into the interlobular cellular tissue, or into the subpleural cellular tissue. In strictness of language these last conditions alone should have been called *emphysema* of the lung. Laennec has distinguished the two species in this way. To the dilatation of the air cells, with or without a breach of their partitions, he gives the name of *vesicular emphysema*, or *emphysema properly so called*: but in truth this is *emphysema improperly so called*. To the infiltration of the cellular tissue in or around the lung with air, *i. e.* to *emphysema* of the lung in the old sense of that word, he applies the title of *interlobular emphysema*. We cannot change these denominations now. They have fastened themselves upon medical language. But it is very fit that you should be aware of their inconsistency with the ancient signification of the same word, and have clear notions of what in Laennec's nomenclature they are intended to express.

Vesicular emphysema.—The change called *vesicular emphysema* was not *unknown*, as a mere morbid condition, before the time of Laennec: but it had been noticed by a very few writers, and *practically* it was wholly *unattended to*. Yet it is extremely common: much more so than you would suppose: and when rightly studied it is of great interest too, in relation to the general pathology of the chest. But it is still so new, and it may so readily escape observation, both in the dead and in the living body, if it be not looked for that I shall devote a somewhat more minute attention to it, on those accounts.

Laennec believed that the authors who had previously noticed *emphysema pulmonum*, all attributed the appearances presented by the lung in that condition, to the infiltration of its connecting cellular tissue with air; and that they were none of them acquainted with the

fact that these appearances generally resulted from dilatation of the air cells. But in this he was certainly mistaken. Morgagni, for example, when describing the changes observed in the dead body of one of his patients, uses these words. “*Sinistri pulmonis lobus superior, quâ claviculam spectabat, vesiculas ex quibus constat mirum in modum auctas habebat, ut nonnullæ avellanæ magnitudinem æquarent; cæteræ multo minores erant;*” and you will find the same change described in Dr. Baillie’s *Morbid Anatomy*, and in other works published before his time.

Anatomical characters.—Vesicular emphysema then, (to adopt Lacnec’s phraseology) consists in dilatation of the air cells. The enlarged cells became also misshapen in many cases. They vary in magnitude from that of a millet seed, to that of a swan shot; nay the cavities may even attain the size of a nutmeg or of a hen’s egg: but when they are as big as this—and *a fortiori* if they are still bigger—the distension and vacuity are, no doubt, the result of the union of several air cells, broken into one, by the stretching or destruction of the partitions that naturally divide and isolate them. You may see the dilated vesicles very plainly through the pleura if you carefully examine the surface of the lung. They appear to the naked eye as the healthy vesicles appear when seen through a magnifying glass. Sometimes all the vesicles belonging to one lobule are enlarged, while those of the adjoining lobules are of the natural size. In that case the emphysematous lobule is conspicuous both by its peculiar colour, and by its protrusion. The surface of the lung is often rendered quite irregular and uneven by projections of this kind. Sometimes one large globular prominence is seen, like a bubble on the water, or like a little bladder springing from a footstalk: but if you examine it closely you will generally find that the footstalk is merely a constriction at the surface, and that there is as large a cavity beyond it, in the lung, as there is without. These bullæ you cannot slip about, by pressure, from one part of the pleura to another.

The unevenness produced by vesicular emphysema upon the outside of the lung is manifest enough, when looked for; but the same condition of the air-cells exists also within, and *there* it is *not* so readily perceptible. The fluids which the lung contains obscure all the distinction of parts when the organ is cut. The best way of getting a fair view of the dilated cells as they appear in the substance of the lung, is to inflate the emphysematous portion, by blowing air in at the bronchial trunk which belongs to it, and then tying that trunk to prevent the escape of the air. The inflated lung should be hung up in a

current of wind so that it may quickly dry; and during the drying process it should, from time to time, be reinflated: for else the included air gets out somehow, and the piece of lung shrinks and shrivels up. When it is quite dry, if a section of it be made with a thin sharp knife, the altered state of the air cells, some of which are *more* and some *less* dilated, will be very conspicuous.

No part of the lung is exempt from liability to these morbid changes; but generally they are limited to certain portions of the organ, and they are much more common and more pronounced at its loose anterior borders, and near its summit, than any where else. Both lungs appear to be alike obnoxious to the disease; which seldom affects the one without affecting, in a greater or less degree, the other also.

The parts that are emphysematous are usually paler than the rest, and sometimes they are quite white. In extreme cases the surface of the lung presents a sort of pyebald appearance; large patches of it looking as if they had been bleached. This pale colour is oftenest seen towards the free edges of the lung. Sometimes those edges are rounded and thick; sometimes thinner, and folded back; while sometimes the margin is blown out, as it were, into an irregular fringe; some of the inflated portions remaining connected with the lung by slender pedicles, and thus forming *appendices* to it, of a light yellow colour. I presume that what was thought and called a fringe of fat garnishing the edges of the lung in the body of King George IV., was of this kind. At least I have never seen, nor heard of, any other example of fat deposited in those organs. If you hold the emphysematous border between your eye and the light, you perceive that it is translucent: if you prick it with a pin, the puffy part surrounding the puncture collapses; which shews that the dilated vesicles communicate together.

An emphysematous lung is not only paler, but drier also than ordinary: and for the same reason. It possesses fewer capillary blood-vessels, less blood, and consequently less moisture. It is dry and light, and floats high upon water, like a bladder filled with air.

If you take such a lung out of the body, having its surface embossed with irregular groups of enlarged air-cells—and if you inflate that lung, by blowing into the bronchi—the emphysematous portions will *seem* to sink in, and flatten, and return to the ordinary level as the lung becomes distended. In point of fact, however, these portions remain permanently dilated, and the other parts of the surface rise, as the air enters them, until the whole becomes smooth and even. Air is shut up in the emphysematous

portions, which do not subside, as the adjoining portions do, when left to the agency of their proper elasticity. Hence you will see how it is that, when the vesicular emphysema is extensive, so as to occupy nearly the whole of the lung, the lung becomes apparently too big for the case in which it is contained. Not only does it *not collapse* when the sternum is raised, and the pressure of the atmosphere is admitted to its external surface; but it even *protrudes*, the moment that the opening is made. When you handle such a lung, it gives a very different sensation to the fingers from that produced by pressing a healthy lung. It feels like a down pillow. It crepitates less; the air is less easily forced out of it, and escapes slowly, with a slight hissing noise.

Physical signs.—Such being the state of the lung, as discovered after death, you will naturally be inquisitive to learn by what signs the existence of a condition so remarkable is revealed during life. First, then, when the emphysematous distension is considerable in amount, and extensive, it produces alterations in the shape and movements of the chest. The lung having lost much of its elasticity, does not subside as a healthy lung does. The act of expiration is arrested and incomplete. Consequently, the thorax remains nearly in that position which it assumes after inspiring. It is prominent and rounder on the diseased side, or on both sides, if both lungs be affected; but it is apt to be irregularly prominent, and unsymmetrical; to bulge here and there in correspondence with the bulging of the lung within. The ribs are less oblique than they should be, and the chest is, therefore, more cylindrical. The clavicles are ill-defined in such persons. They are so, as you know, in *fat* persons: wherefore this aid to the diagnosis is of most value in those who are *spare*. In them it is a valuable sign, for it is simple and obvious. The distended lung presses upwards, as well as in other directions, and tends to efface the depressions which naturally exist both above and below the collar-bone. This symptom is the more to be depended on if it presents itself on one side only. The manner of breathing is instructive also. The ribs, never receding within their proper limits after expiration, can move but little during inspiration: and the breathing is in a great measure abdominal.

Now all these signs are physical signs. But what, in the second place, are the *auscultatory* physical signs? Why, in the emphysematous regions, which commonly are also the most bulging, percussion yields an unnaturally clear and resonant sound; while auscultation discovers a very indistinct vesicular murmur. The two modes check and explain each the information afforded by

the other. Percussion ascertains that there is air beneath the part struck: auscultation ascertains that there is little or no *air in motion* beneath that part. It follows, therefore, that there is stagnant air; air shut up in the enlarged air-cells, or air interposed between the ear and the lung in the cavity of the pleura: air at rest, in fact. I say the respiratory murmur is very feeble. This partly depends upon the limited play of the ribs, partly and chiefly upon the fact that the air is imprisoned in the dilated cells. When none enters or leaves them during respiration, the vesicular breathing is wholly inaudible: and then we must call in the aid of other circumstances to determine whether the air be contained in the cavity of the pleura, or in the emphysematous lung. Pure pneumothorax is extremely rare. Pneumothorax with liquid effusion is easily recognised by its proper signs. If these be absent, we conclude that the stagnant air occupies the lung, and not the pleura: and this conclusion is strengthened if the unduly resonant part be prominent also. Almost all writers on this subject follow Laennec in stating that *dry* crepitation may be heard in the emphysematous parts. It may be so; but if so, I cannot distinguish it. I mean that I know no crepitation but that which is moist, and which proceeds from the formation and rupture of bubbles, as air passes through liquids in the bronchial tubes. But other people believe that they can hear a dry crackling, such as may be produced by inflating a portion of dry cellular tissue out of the body, or a dry bladder. You will try this by your own experience. I do not deny that such a sound exists: I only say that if it does exist, I cannot tell when I hear *it*, and when I hear large moist crepitation. But I more than suspect that no such sound is given out by an emphysematous lung; and that the sound heard is really large crepitation in the neighbourhood of the dilated cells: for emphysema is very often accompanied by catarrh; and the sounds in question, authors agree, are not permanently audible.

General symptoms.—So much for the physical signs of emphysema pulmonum. The general signs, when the change is extensive, are an habitual shortness of breath, with occasional paroxysms of extreme dyspnoea; cough, which, however, is far from being a constant symptom; palpitation in most instances as the disease advances, and more or less oedema of the ankles. Usually the appetite remains unimpaired, and the patient does not lose flesh. The disorder is unattended with fever; and is essentially chronic.

The paroxysms of urgent dyspnoea are frequently concurrent with, and apparently excited by, attacks of smart bronchial catarrh: but they sometimes arise

without any obvious cause. They are apt to come on suddenly, in the night, and the patient is obliged immediately to sit up, and even to open the doors and windows of his bedroom, that he may breathe more freely. In one word, he undergoes a paroxysm of *asthma*. These attacks become more frequent and more severe as the patient and the disorder grow older. They are attended with much wheezing; and in the lower posterior part of the lungs crepitation is generally audible. At first the palpitation of the heart, and œdema of the feet, abate and cease as the violent dyspnœa goes off: but at length these symptoms become permanent.

We see a reason, in the physical condition of the thorax, why the breathing should be more oppressed, and why the paroxysms of orthopnœa should occur more frequently *in the night*. Whenever the respiration is principally abdominal, it is apt to be embarrassed by the recumbent posture, which throws a part of the weight of the viscera of the belly upon the diaphragm. The horizontal position is always ill borne by these patients: and, for similar reasons, flatulence or fulness of the stomach, however caused, distresses them.

Cough, as I observed before, is an occasional, but by no means an essential accompaniment of vesicular emphysema: the expectoration, when there is any, is thinnish, like gum water, and full of foam.

Louis, who has analyzed, with his accustomed care and exactness, a considerable number of cases of emphysema, states that the disease is seldom complicated with tubercles in the lungs. We may suspect that complication, if hæmoptysis, or emaciation, occur; which are otherwise rare symptoms.

Causes.—To what *cause* can we ascribe this dilatation of the pulmonary vesicles, whereby the proper function of the lung, in the part affected, is impaired, or annulled? Mainly, I think, in the outset at least, to the imprisonment of air within them, under circumstances of disease. You may often trace back the shortness of breath to the period of infancy. Patients will tell you that from their earliest recollection they have been easily put out of breath: that they never were able to engage heartily, and to the same degree with their companions, in the active sports of childhood. It is easy to conceive that under chronic inflammation, or other disease of the mucous membrane, air may enter the vesicles more readily than it can escape from them again. The act of inspiration is voluntary and strong: the tubes are made patent by it, and air rushes in and finds its way to their extremities. But the act of expiration is passive, and comparatively feeble. Slight tumefaction of the membrane, or a little plug

of viscid mucus, may so close up a small bronchial ramification, that the air cannot pass through it in expiration: and more and more air may thus be accumulated and incarcerated in certain air-cells, which yield to its distending force, and losing their elasticity become permanently large. And this process will be accelerated if the original disorder which gives rise to it is attended with violent cough; with *forcible efforts*, that is, of expiration. Emphysema is always (in my opinion) a consequence of preexisting disease or disorder of the chest. There are some who believe it to be occasionally a congenital and idiopathic affection. They build this notion upon the fact that the complaint is traceable, from one generation to another, in certain families; and as it often is present at an early age in children born of emphysematous parents, they conclude that the emphysema, in such cases, is a vice of the original bodily formation. I am not convinced by this mode of reasoning. The facts upon which it rests shew simply that the disorder runs much in families, and that the tendency to it is sometimes inherited. The lax or weak fabric, which favoured the production of the disease in the parent, is repeated in the offspring, and imparts to it the same predisposition. Children are very liable to severe coughs, such as are likely to strain and overstretch the cells of their delicate lungs. What can be more likely to do so than the reiterated and violent paroxysms of coughing which occur in pertussis? After the cough has ceased, however, the shortness of breath which it leaves behind is easily overlooked, until, with the increase of the emphysema, it forces itself into notice. For when once the morbid process has begun, it tends, slowly often but surely, to its own augmentation. As the cells dilate, the capillary blood-vessels distributed over their parietes are gradually compressed and emptied: and many of them are, at length, completely obliterated. Hence, not only an ex-sanguine condition of the pulmonary tissue, but atrophy also of the intervesicular partitions, which become first thin, then tattered and imperfect. In dried specimens of emphysema you see very plainly the remains of the former walls of separation between the vesicles.

It is this interference with the nutrition of the lung which causes vesicular emphysema to be always a *progressive* disease. We see why it is that, speaking generally, the extent of the morbid change is proportioned to the age of the patient: why paroxysms of severe dyspnœa at length supervene; and become more and more frequent and trying. The function of the lung becomes year by year more limited; until it can no longer bear, without a struggle of distress, that farther encroachment

upon its office and capability which a slight catarrh, rapid movements of the body, a distended abdomen, or even the recumbent posture, may be sufficient to produce.

Laennec attributes the dilatation of the air cells, in the first instance, to what (with a curious infelicity of diction) he terms *dry catarrh*, which is characterized by its tendency to recur, and by the expectoration of small pieces of hard, pearly, phlegm. But doubtless the disorder may be produced, and aggravated when produced, by any cause that impedes the free exit of the air from the lungs during expiration: by blowing on wind instruments of music; by pressure made on parts of the lung; by tumors therefore in the thorax, a large heart, aneurism of the thoracic aorta, deformity of the chest from crookedness of the spine, tight lacing, and even the presence of tubercles; although lungs that are full of tubercles are not, in general, much affected by emphysema. This last fact has led to the absurd project of attempting to prevent phthisis by producing emphysema. It is the same disease which exists in broken-winded horses; and Sir John Floyer, in his *Treatise of the Asthma*, published in 1698, sets forth, in the quaint language of that olden time, both the alteration which Laennec thought he had been the first to describe, and the mode in which it takes place. His observations respecting the lungs of horses are equally applicable—and he no doubt intended to apply them—to the human lungs. After speaking of “the broken wind, from the rupture or dilatation of the bladders of the lungs, by which the air is too much retained in the bladders, or their interstices, and thereby produces a permanent flatulent tumor”—and stating that “these horses wheeze much after filling their stomachs, by water or food, because that keeps up the diaphragme”—he goes on thus. “As it happens in external flatulent tumors, they at first go off and return, but at last fix in permanent flatulent tumors; so it is in the flatulent asthma, the frequent nervous inflations induce at last a constant windy tumor or inflation; and it ought to be considered how far holding the breath in hysteric fits, or the violent coughing in long catarrhs, or the great distension of the lungs by an inflammation in the peripneumonia, may strain the bladders and their muscular fibres, and thereby produce the same rupture or dilatation or hernia as happens in the broken-winded. This must be observed by the help of the microscope; and if the air blown into any lobe will not be expelled thence by the natural tone or muscle of the bladders, that the lobe may again subside of itself, ’tis certain some injury is done to the ventiducts; the bladders are either broken, and admit the air into the membranous in-

terstices; or else they are over distended like a hernia in the peritoneum; and this will produce an inflation of the whole substance of the lungs, and that a continual compression of the air and blood-vessels, which will produce a constant asthma.” Really this is a capital piece of pathology for the 17th century.

It is, at first sight, a matter of surprise that vesicular emphysema of the lung, and dilatation of the bronchi, do not more often go together. Sometimes, indeed, the smaller branches of the air-tubes do partake of the dilatation of the cells: but this is not commonly the case. Still the mechanism of both diseases appears to be, in the first instance, the same. The detention of *mucus* in them leads to dilatation of the *bronchial tubes*: the incarceration of *air* in *them* to enlargement of the pulmonary *vesicles*.

Consecutive disorders.—Vesicular emphysema may arise then, and receive increase from, various disordered conditions that precede or accompany it, and of which it is the effect. On the other hand, it is often itself the cause of subsequent disease, not merely in the lung, but in other parts; and above all, of disease of the right chambers of the heart. The smaller blood-vessels, as I have shewn you, are gradually effaced as the dilatation of the air cells proceeds; the emphysematous lung is evidently in a state of comparative anæmia, and incapable of admitting all the blood which is due to it from the pulmonary artery. In other words, the right side of the heart does not empty itself with its accustomed readiness. Hence increased muscular contractions of the right ventricle; and a yielding of its walls to the augmenting pressure of the contained blood. And this embarrassment of the circulation in the right side of the heart is aggravated at those periods when the paroxysms of urgent dyspnœa occur. Now nothing is a more sure cause of anasarca than a permanent dilatation of the right cavities of the heart: and this influence of the emphysematous lung upon that organ is clearly seen in the palpitations to which such patients are liable, and in the œdema of the feet and ankles which often becomes manifest at the same time.

I must beg you to bear in mind that emphysema of the lung is one, and a very common, cause of *asthma*. The asthma so arising is less perilous than that which proceeds from certain other organic changes, to be described hereafter. Vesicular emphysema indeed, in its simple uncomplicated form, is seldom attended with any danger. When it proves fatal, it is so in consequence of the superaddition of some other disease. Laennec states very truly that of all the varieties of asthma, this is the one which affords the patient the best hope of a long life.

Treatment.—The condition that I have been describing, when once it has fairly been established, can scarcely admit of a cure. We shall do our patients good, not by any treatment addressed to the existing emphysema itself, but by guarding them against those circumstances which are likely to aggravate it, and by mitigating or removing those other disorders with which the emphysema is apt to be combined. Whatever is calculated to put the patient out of breath is bad for him. It is observed that they who, having emphysema, are obnoxious also to catarrhs, during which the dyspnoea is singularly increased, are much more free from such attacks in the warm weather of summer, than in the winter. This explains the beneficial influence of a judicious change of climate upon such persons, and it points to the necessity of warm clothing in the colder seasons for those who are obliged to remain in this country. The feet especially should be kept dry and warm; and the liability to catarrh may be sometimes diminished by the use of the cold shower-bath, in the way I formerly recommended. During the fits of extreme dyspnoea, you may hear the expiratory wheeze remarkably loud and protracted; and if, withal, you hear any small crepitation, indicative of pneumonic inflammation, you will do well to cup the patient between his shoulders. This will always give relief to loaded lungs, whether there be inflammation present or not. But the great assuager of the dyspnoea in this disorder is opium; and especially opium combined with æther. Half a drachm of Hoffman's anodyne, with a third of a grain of the acetate of morphia, in camphor julep, will operate like a charm often, in quieting the whole system, and removing the difficulty of breathing. This circumstance would lead us to suppose that the access depended, in part at least, upon a spasmodic state of some of the muscles concerned in respiration. To this question I shall revert when I speak of asthma as a separate disease. At any rate you will find that some such formula as I have just mentioned will stand you in good stead when you have to deal with asthma engrafted on emphysema. And I may add, that this is a case of exception to the rule I formerly laid down. You need not be deterred from giving a full dose of opium by the blueness, which is temporary, of the patient's lips and countenance.

Interlobular emphysema.—The *interlobular and sub-pleural* emphysema of the lungs is a species of *true* emphysema, the air being contained in the meshes of the common cellular tissue. When it appears on the surface of the lung, it may be distinguished from the bladder-like prominences which sometimes form there by the dilatation

of the air-cells, in this way: the bullæ which are situated in the cellular tissue connecting the pleura with the lung, may be made to move hither and thither under pressure; whereas those which result from the protrusion of an enlarged cell or cells cannot be made thus to change their place. This sub-pleural effusion of air is sometimes enormous. I have seen it as large as a hen's egg. Bouillaud mentions a case in which the bladder or pouch was equal to the size of a stomach of ordinary dimensions. It proceeds, I presume, from the rupture of a superficial air-vesicle. Sometimes, as I mentioned before, the *pleura also* gives way, and air is poured into the cavity of the thorax. More commonly the membrane remains entire, and then these large bubbles of air may be seen upon the surface of the lung.

Of interlobular emphysema I can give you but little account except from the observations of others. I have never seen more than one well-marked example of it. The lobules of the lungs cohere together by means of cellular tissue, which is dense and close in the natural state, but which admits of considerable expansion when it is infiltrated with air. If the emphysema be slight in degree, the lozenge-shaped spaces visible on the surface of the lung are defined by little bubbles of air, that look like beads strung upon a thread. But in extreme cases the lobules are fairly blown asunder by the air; the partitions between them increase in width, and are said to be sometimes as much as an inch broad. They are broadest towards the surface of the lung, and narrower towards its roots; and exhibit somewhat of the arrangement seen in the section of an orange, the septa radiating and diverging from a centre. If the cellular tissue could be taken out, there would be left cracks and clefts in the lung. When the interlobular emphysema penetrates to the roots of the lung, the air readily passes into the cellular tissue of the mediastinum, and thence to the subcutaneous cellular tissue of the neck and chest—and then we have the genuine emphysema of authors who wrote prior to Laennec.

There is this material difference between vesicular and interlobular emphysema; that the one is slow and gradual in its formation, the other sudden. The permanent dilatation of the air-vesicles is the work of time. They yield, and lose their elasticity, and break into one another, only by degrees. The interlobular effusion of air may be effected in a few minutes or seconds. It is caused by *violent* straining efforts; such as those made by a woman in child-birth, or by any one who exerts himself to lift a weight which is too much for him. A deep inspiration is taken; then the glottis is voluntarily closed, and a strong expiratory

effort is made. Some rupture must take place, and form a communication between the air-vesicles and the cellular tissue; but such rupture has never been *traced*, nor is it likely that it should.

They say that this form of emphysema is revealed also by large dry crepitation; why it should, is not evident. I can only say of that sound, as I said before: it may exist, and it may be distinguishable from large *moist* crepitation, but my ear is not delicate enough to distinguish it: and to say the truth, I doubt exceedingly whether any such sound really occurs at any time. But do not let my doubts infect you: try for yourselves; and till you have had opportunities of investigating this point, consider it as *adhuc sub judice*.

Again, they say that the noise of friction denotes the existence of interlobular and subpleural emphysema. On this point I can give you no information of my own knowledge. That you may sometimes hear the costal pleura rub against the pulmonary during inspiration and expiration, I know; I have often heard that sound (as I mentioned to you before) when the membrane has been roughened by pleurisy; but that a soft, smooth, moist lung, though embossed by emphysema, will give rise to a rubbing sound, I do *not* know. It may be so, but it has never occurred to me to hear it.

We may be more certain that interlobular emphysema has arisen when, immediately after some violent straining effort, considerable dyspnœa and oppression ensue, and presently the subcutaneous cellular tissue becomes emphysematous. You may understand how rapidly the inflation of the cellular tissue may take place if you ever saw a butcher blow up that of a calf which he is in the act of skinning.

As interlobular emphysema differs from vesicular emphysema in its seat, and in the suddenness of its formation, and in some sort also in its cause, so does it differ in its curability. Under favourable circumstances it will soon cure itself—the air will be re-absorbed, and the dyspnœa cease. I do not know that we can do much by art to accelerate that process. If the dyspnœa be extreme, it will be relieved by blood-letting; and if the air makes its appearance, and can be felt, crackling, beneath the skin, you may let it out by making a few punctures with a lancet, and the deeper-seated emphysema will be lessened as the air escapes. I believe that this interlobular emphysema is more common in infancy than in any other part of life; on account, I suppose, of the greater delicacy and tenderness of *all* the tissues at that age.

Œdema of the lungs.—The interstitial cellular tissue of the lungs, as well as the

air cells, is liable to be filled not only with air, but with serous fluid; and this constitutes *œdema* of the lungs; a condition which is by no means uncommon, and one of which you ought therefore to be aware; but it need not long occupy our attention at present. When a lung, or a portion of lung, is anasarcaous (and you will often find that the œdema is limited to the most depending part of those organs), it is generally of a pale grey or yellowish tint; is heavier than healthy lung, and less crepitous; and pits more on pressure—is *doughy*. And if the œdema is extensive, the lung does not collapse when the chest is laid open. When incisions are made into the lung in this state, a thin watery fluid flows out, more or less spumous; and if the lung be well squeezed, the whole of the liquid may be expressed; and then it will be obvious that the texture of the organ is sound, but that it had previously contained less air than usual, in consequence of the presence of the watery fluid.

This condition of the lung seldom takes place except as a part of general anasarca: and we may discover its existence, first by noticing that there is dropsy of the cellular tissue in other parts; secondly, that the patient has dyspnœa; and thirdly, by hearing crepitation, produced by large bubbles, at the lowermost portions only of the lungs. Into those portions the liquid gravitates; just as it does into the ankles when the patient sits up or walks about. There is still air in the œdematous portion; so that percussion still gives a hollow sound: as hollow at least on the one side as on the other. With the air there is also liquid, which transudes, I suppose, from the cellular tissue, or is exhaled from the surface of the membrane: and the liquid is from time to time coughed up and expectorated. Sometimes, however, there is but little expectoration. What does come up is chiefly aqueous, with occasionally a piece or two of mucus floating upon it; and it is somewhat foamy also.

This œdema or anasarca of the lung is symptomatic of other disease; generally of disease of the heart or great blood-vessels: and it is capable of no other rational treatment than such as is suited to the original disorder: and therefore I have nothing farther to say about it at present.

Phthisis Pulmonalis.—I proceed, in the next place, to that most prevalent and melancholy disease of the lungs, which is well known to every body, under the titles of *pulmonary consumption*, and *tubercular phthisis*. And without pausing to make any general reflections, respecting facts which must be familiar to you all—the fatal and almost hopeless character of the disease, and the havoc it produces among the young, the

most gifted, and the most beautiful, of the human race—I shall commence by enquiring into the *morbid anatomy* of tubercular phthisis; which will naturally introduce us to the consideration of its symptoms, causes, treatment, and general history.

Phthisis, you know, means a wasting away, or a consuming: but of late years the term has been restricted to that *species* of wasting disease, which consists in the occupation of the lungs by tubercular matter, and the changes which that matter *suffers* and *works*. But it would be an error to suppose that the disease is restricted to the *lungs* in these cases. The lung disease would be sufficient at length to destroy life; but its mortal tendency is aided and accelerated, in most instances, by disease of a similar character, situated in other organs. “The *pulmonary* consumption (as Dr. Latham justly observes) is no more than a *fragment* of a great constitutional malady.” But that malady plays its part most conspicuously in the lungs. I shall notice its complications as I go on; but I am desirous of cautioning you in the outset against supposing that tubercular phthisis is *exclusively* a pulmonary disease.

Before I proceed to a more particular description of the changes that, in the progress of consumption, are wrought in the lungs, I must briefly recal to your recollection certain points, relating to tubercular disease in general, which were brought before you in an earlier part of the course. The formation of tubercles is closely linked with the existence of the scrofulous diathesis. Tubercles themselves are composed of unorganized matter, deposited from the blood, of a yellowish colour, opaque, friable, and of about the firmness and consistence of cheese. This is what all pathologists agree in regarding as the true tubercular matter. It is most commonly deposited on the free surface of mucous membranes; and not unfrequently among cellular tissue. You will remember that tubercles are not necessarily, as some have supposed, of a round shape. Their form depends upon the nature of the tissue in which the tubercular matter is deposited. Wherever it is laid down, it is liable to increase in quantity by the continual accretion of fresh matter of the same kind. Hence, when a speck of this peculiar matter is deposited in any soft uniform tissue—such as the brain, or the cellular membrane—there being no inequality of pressure from any quarter, it preserves a spherical or globular form as it grows larger. But taking the lung, with which we are at present chiefly concerned, the round form is sometimes real, sometimes apparent only. It is real when the tubercular matter fills up, or lines, and therefore takes the shape of, the pulmonary vesicles. So it is when a number of these, contiguous to each other, coalesce

by the increase of deposit and compose one large globular mass. And you may often catch the tubercles, if I may so say, in the process of forming these large rounded masses; *i. e.* you may see them arranged in circular groups or clusters, the interstices between them becoming gradually smaller and smaller. But when, as is often the case, the tubercular matter is laid down in the smaller ramifications of the bronchi, it assumes a cylindrical shape. This you may ascertain by carefully following the branching of the air-tubes: but in the manner in which the lung is usually divided by the scalpel, you *see* merely sections of these cylinders; and then the round form is apparent only. If the tubercular matter comes to fill one of these smaller air-tubes, and also all the vesicles to which that tube conducts, then the new substance, when fairly displayed, represents a branch, with cauliflower terminations; like a twig with a bunch of leaves at its extremity. You may see these appearances delineated, from nature, in Dr. Carswell’s admirable lithographic drawings.

If this account of the formation of tubercles, as explained by Dr. Carswell, be the true one;—of which I entertain no doubt;—it will follow, as a matter of necessity, that no alteration *can* take place in the tubercular matter, after it has once assumed the solid form, except through the agency of the parts around and in contact with it. No change can originate in the inorganized tubercle itself.

Besides this true and undisputed species of tubercle, you will often find the lungs more or less thickly studded with a number of small granules, of firmer consistence, almost as hard as cartilage, semi-transparent, and of a bluish-grey colour. Respecting the nature of these granules—which are sometimes called *miliary tubercles*, sometimes the *granulations of Bayle*, who first described them—many different opinions are entertained. Laennec considered them to represent the incipient stage of the opaque yellow substance; and he calls them accordingly *nascent* tubercles. Andral believes that they are simply some of the pulmonary vesicles rendered solid and hard by chronic inflammation. Dr. Carswell explains their formation in this way. The membrane lining the air-passages secretes from the blood, not only the matter of tubercle, but its own proper fluid; so that it sometimes happens that a dull yellowish point of tubercular matter becomes enclosed and set, as it were, in a small pellet of grey, tough, semi-transparent mucus. Whatever may be the true theory respecting these little bodies, it is certain that they acknowledge some intimate connexion with the true cheesy tubercle. They both occur in the same persons, in the same lungs, in the same parts of the lung.

One very seldom occurs without the other. They both belong essentially to the disease we are considering—pulmonary phthisis. Louis, a minute and faithful observer, states, that the granules present, at a certain period of their development, a central opacity. Upon the whole, it seems probable that Laennec's doctrine, in regard to the relation subsisting between the grey semi-transparent granule and the yellow opaque tubercle, was well founded.

He was wrong, however, in some other points, especially in his statement that the softening of tubercles begins in their *centres*. Dr. Carswell has shewn how the *appearance* of a central softening arises, first, in the smaller tubercles; secondly, in the larger agglomerated tubercular masses. The morbid secretion is deposited, principally, upon the mucous surface—upon the inner lining of the air-cells, and of the bronchial tubes communicating with them. Now it may so accumulate as to *fill* those cavities; and then, sections of them will represent the crude tubercles of Laennec. But it may only *line* the cavities: it may leave a central vacuity, containing mucus or other secreted fluids; and if the lung be cut across under these circumstances, the divided air-cells will look like *rings* of tubercular matter grouped together; and so also will the divided bronchial tubes. We then have the *appearance* of tubercles with central depressions, or soft central points; and Laennec was deceived by those appearances.

But the larger masses begin also, he says, to soften at the centre. True: we do find the process of softening going on at several points within them at the same time. The masses, you must bear in mind, are formed by the growing together of many smaller tubercles; and the cellular tissue, with the other tissues which originally separated these tubercles, still exists, though it ceases to be visible. At length, under the augmenting pressure, or some other influence, it suppurates; and in this way the tubercular mass is broken down. Now this is the very process by which the tubercles are at length, often, expelled from the body. They increase till the surrounding parts take on inflammation, either from the increasing pressure, or from some accidental cause. The inflammation thus excited, occurring in scrofulous persons, has the scrofulous character. The thin pus which it throws out pervades and loosens the tubercular deposit; a process of ulceration goes on in the surrounding textures; and, at last, the softened scrofulous matter is gradually coughed up and expectorated.

This explanation of the mode in which the tubercles are formed, and increase, and soften, and are removed, has been given to the world within the last few years, by Dr.

Carswell; and it is much the most simple and probable of any that I have seen. It is, moreover, perfectly consistent with the best ascertained facts concerning the progress of tubercular disease. You will find numberless theories broached by different authors on this subject if you like to look for them; but I do not think you will find any so satisfactory as Dr. Carswell's. And having recalled these things to your memory (for it is some time now since I mentioned them before) we may go on to the farther consideration of the morbid anatomy and pathology of tubercular phthisis.

It is a remarkable and very important fact, that tubercles, when they affect the lungs, are not deposited at random, or indifferently in all parts of those organs. It is in the upper lobes and in the upper and back parts of those lobes, that, in 19 cases out of 20, and in more than that proportion, we meet with tubercles when they are few. It is in the same part that they are largest, and most numerous, when they are scattered throughout the whole lung. It is here, also, that they first ripen, and grow soft, and become ready for expulsion through the bronchi and trachea: consequently, it is here that we have the most frequent, the most numerous, and the largest excavations in the lung—what are technically called *vomicæ*. And the number and magnitude of the tubercles and of the *vomicæ* gradually diminish from the summit of the lungs downwards.

Now these are not merely *curious* facts: they have a most important bearing upon the diagnosis, in cases that might otherwise be doubtful. It is a rule which has but few exceptions—just enough to establish its claim to be a rule—that the favourite habitat of pulmonary tubercles is the upper part of the superior lobes of the lungs; and I may remind you that the converse of this is true, though with a greater number of exceptions, of common inflammation of the lungs. Pneumonia affects by preference the lower lobes; it does sometimes commence in the upper, but that is comparatively rare. When it occupies the superior lobes it generally has arrived there by travelling upwards from the inferior. You will at once perceive the practical advantage of knowing these points of contrast.

It is a curious fact also—less practically useful, perhaps, than the former, but still a valuable fact—that the left lung is much more obnoxious to tubercular disease than the right. Modern observers have collected numerical statements showing that this really is so. Why it should be so, I know not. Thus Louis, whose volume is the result of immense labour in observing, and is full of the most instructive matter, had met with *seven* cases in which tubercles were confined

to a single lung ; in *two* of the seven cases it was the right lung that was thus exclusively affected, in *five* it was the left. Of 38 instances in which the upper lobe was totally disorganized by the disease on one side, 28 were of the left, and only 10 of the right. Eight times he had known the pleura perforated by the extension of tubercular disease ; and seven times out of the eight the perforation happened on the left side of the chest. So also Reynard met with 27 cases of pneumothorax on the left side, to 13 on the right. No less curious is it that here also the facts ascertained with respect to pneumonia are just the contrary of those which belong to phthisis. I mentioned in a former lecture that Andral concluded, from the observation and collation of 210 examples, that pneumonia is more than twice as common on the right side as on the left. M. Lombard, of Geneva, found the ratio somewhat less than this, but still great. Of 868 instances of pneumonia, 413 occurred on the right side alone, 260 on the left alone, and 195 on both sides at once. That is, there were three on the right side alone, for every two on the left alone.

The tubercular matter then, being deposited on the mucous surface of the vesicles, and of the small bronchial tubes that conduct to them—groups of these diseased air cells, lying contiguous to each other, become, more or fewer of them, amalgamated, or fused, as it were, into one large mass : and generally there are tubercles of various sizes, from that of a pin's head, to that of a pigeon's egg, in the same lung. And there is yet another disposition which the tubercular matter is apt to take : it sometimes is diffused uniformly over a considerable space, occupying all the cellular and interstitial portions of the part affected, and having no distinct circumscribing boundary. The part looks as if fluid tubercular matter had been poured into it, and there had hardened. This is what the French call *tubercular infiltration* of the lung.

The tubercular matter, once deposited, may remain for a longer or shorter time in what is called the crude state ; surrounded by perfectly healthy lung, undergoing no increase in quantity, and no alteration of consistence. But in the vast majority of cases, scrofulous inflammation is sooner or later set up around the tubercles—or in the cellular tissue imprisoned within the agglomerated masses—and then the whole breaks down in the way I mentioned before ; and the detritus is conveyed through one or more tubes into the primary divisions of the bronchi, and thence to the mouth, to be expectorated. Of course there is an excavation, cavity, cavern, or vomica, left. All these names are given to the void space

which the tubercular matter previously occupied. Now there are some curious particulars to be mentioned respecting these cavities ; but I must postpone them till our next meeting.

SOME REMARKS ON THE DISEASE
CALLED
FALSE HYDATIDS, OR VESICULAR
DISEASE, OF THE HUMAN
KIDNEYS.

To the Editor of the Medical Gazette.

SIR,
THE following observations on the pathological condition of the human kidneys, which Dr. Matthew Baillie termed "false hydatids," and more modern pathologists the "vesicular disease" of these organs, were presented by me as a thesis to the Faculty of the University in Edinburgh, in August last, when a candidate for their diploma. The Faculty was pleased to express a favourable opinion of its merits ; and what appeared to me still more complimentary, was the admission of a distinguished physician and professor, that his practical knowledge of the subject did not warrant his venturing to criticise the thesis. These considerations, together with the advice of many no doubt partial friends, have induced me to place the thesis at your disposal, that, in the event of its being favourably received by you, it may acquire publicity in the columns of the LONDON MEDICAL GAZETTE.

I am, sir,
Your obedient servant,
WILLIAM DALTON, M.D.

Carlisle, Oct. 25, 1841.

It occasionally happens, though somewhat rarely, fortunately for the reputation of medicine, that morbid appearances are discovered during the post-mortem examinations of the body, which were not suspected to exist during life ; lesions of organs, in fact, which, although very serious, and tending ultimately to compromise the life of the individual, do not, nevertheless, betray themselves during his existence by any symptoms appreciable at least by his medical attendant.

In this predicament seems to me to stand that morbid change which Dr. Matthew Baillie, the father and founder of systematic morbid anatomy, described

briefly by the name of "false hydatids of the kidneys." And although it would perhaps be stating the fact too strongly to assert that this disease is a very frequent one; that it probably is usually fatal in its results; that its symptoms are either altogether unknown, or but very imperfectly understood, and, as a disease, must be presumed to be for the present beyond the reach of medicine; although these statements may appear strong, they yet seem warranted by an appeal to some of the best modern authorities.

In the section treating of diseased kidneys, of Dr. Baillie's work on morbid anatomy, that first of physicians remarks, "that the formation of hydatids is not so uncommon a disease in the kidneys. There are sometimes one or two considerable hydatids on the surface of the kidneys, lying between its substance and capsule; at other times they are more numerous. These hydatids do not appear to be of the same nature with hydatids of the liver; they are not enclosed in firm cysts; their coats are also thinner and less pulpy; and not uncommonly they are almost as thin as any membrane of the body. I do not (he continues) recollect to have seen any instance of small hydatids of this sort attached to the coats of larger hydatids, as may be frequently observed in the liver. It is therefore probable that the hydatids which are commonly found in the kidney depend on a diseased alteration of the structure of this organ, and are not distinct organized simple animals." (p. 249.)

It is evident, from the above quotation, that Dr. Baillie had thus early drawn an accurate distinction between the common serous cyst, or vesicular disease of the kidneys (false hydatids), the "production" and "transformation cysteuce" of modern French pathologists; and those very peculiar bodies usually called true hydatids, or acephalocysts. He had, of course, the sagacity to remark this distinction and difference, describing in the very next passage to the above, with great precision and a sufficiency of details, a base of true hydatids, together with the symptoms and post-mortem appearances; but this being foreign to my present enquiry, I need not further mention it.

It was Dr. Baillie's practice, in drawing up the admirable summary of

morbid anatomy which immortalizes his name, to group the morbid appearances in one section, contrasting them occasionally with each other, and in a subsequent chapter to adopt the same plan in reference to the characteristic symptoms of these morbid affections; without, however, or at least with a few marked exceptions, entering on any lengthened detail of the symptoms characteristic of individual cases or diseases.

On turning, accordingly, to that brief "section treating of symptoms," we do not find any history of those which may be supposed to precede and accompany the "vesicular disease of the kidney." He merely remarks, that there would seem to be no particular symptom which belongs to the formation of hydatids in the kidneys. The disease, he thinks, can only be ascertained by hydatids passing occasionally through the urethra along with the urine; but by this he clearly refers merely to the case of *true hydatids*, or acephalocysts, and not to the vesicular disease I now speak of, which, under ordinary circumstances, could scarcely pass into the urinary bladder to be thus discharged.

An interesting question thus arises as to the possibility of a fatal, or at least a serious, organic lesion being present, for a longer or shorter period, in any of the more vital organs of the human body, unaccompanied by the presence of any symptoms, or at least symptoms so prominent as to bring them under the notice of the sufferer himself, and, in consequence, of his medical attendant. This opinion, I believe, is held by many physicians, and even by distinguished physiologists. Dr. Baillie himself seems to have entertained the idea, that the vesicular disease of the kidney, nay that even true hydatids themselves in the kidneys, were only to be recognized by their appearance amongst the discharges of the body. (For these suggestions, with many others, I am indebted to Dr. Knox, who kindly communicated to me his MSS., with full power to make every use of them; pointing out, at the same time, the preparations in the museum of the College of Surgeons, and in his own, illustrative of the vesicular disease of the kidneys*.)

* I may here mention the circumstances briefly

In this view we shall presently find that he was not singular; but as such considerations might lead to digression, I shall, for the present, waive their discussion until reviewing the opinions of authors as to the symptomatology of the disease.

The next authority, in point of time, which I may attend to, are the preparations which originally formed a part of that magnificent collection purchased by the Royal College of Surgeons in Edinburgh; from Sir C. Bell. In this museum are many preparations, placed there by Baillie, Cruickshank, Brodie, Wilson, and others equally distinguished. The preparations which I shall take the liberty of referring to are marked as follows: 1997, 1986, 1999, 2001, 2002, 2006, 1968, 1969, 1982. On these anatomical preparations I shall venture a few remarks.

No. 1997 is a preparation with vesicles on it, resembling somewhat a case described by Sir B. Brodie in the *Medico-Chirurgical Transactions of London*, and to which I shall afterwards allude; but no details are given respecting the specimen in the MS. or printed catalogue. It merits a careful examination; the vesicles seen on the surface have much the appearance of serous cysts; they are crowded together, are very numerous, and some appear to have been of considerable size. But the entire substance of the kidney is much enlarged, and so also is the pelvis of the ureter; appearances which, in themselves, are not necessarily connected with, or dependent on, the vesicular disease of the kidney; and it is even probable that the preparation had suffered from putrefaction previous

which induced me to turn my attention to the vesicular disease of the kidney, and to make it the subject of my inaugural essay. During my attendance, for several years, in Dr. Knox's practical rooms, several cases of the vesicular disease of the human kidneys occurred, to which that distinguished anatomist, who never allowed any pathological structures occurring in the rooms to pass unnoticed, directed the attention of the class. Moreover, during Dr. K.'s valuable lectures on the anatomy of texture, morbid and healthy, delivered annually by him, this organic disease of the kidney was particularly described by him, and contrasted with the true hydatid, &c. On mentioning to him therefore that having on several occasions been present when this peculiar diseased structure occurred in the rooms, I felt disposed to make it the subject of an inaugural essay, Dr. Knox very kindly offered me the use of all his MSS., notes, and references; placed the preparations in his own museum before me, and pointed out those in the public museum of the College.

to its being placed in safe keeping. In the preparation marked No. 1986 we have the same appearances affecting the other kidney. In 1999, a specimen of kidney, also enlarged, with a few large cysts; but no history is attached to the case. No. 2001 presents a very good specimen of the vesicular disease, or false hydatids of the kidney, of that form more especially wherein the cysts are large but not numerous: this case is also without a history. No. 2006 offers a specimen of the combination of renal cysts with a calculus; a few of the cysts are scattered over the surface of the kidney; but we have no history of the case. In Nos. 1968 and 1969 we have the kidneys of a person who, during life, was said to have complained only of the urethra; and yet the renal organs are extensively diseased. A small part only of the parenchyma remains, by which alone the urine could have been secreted; the cortical part has extensively disappeared, and of the cysts some contain a matter much resembling putty. The opposite kidney was similarly diseased. There can be no question, I should imagine, that an analysis of the urine of this patient might have led to some important results, at least in respect to the diagnosis. The treatment of the affection would even then, however, be as difficult as ever. Cavities do occasionally form in the kidneys somewhat different from the false hydatids, at least in appearance: such appear to exist in the preparation marked 1971, described, very briefly, as a large cavity in the kidney of an old woman, which did not communicate with the pelvis of the kidney. The history of this case, if it may be so called, further states that the cavity was filled with "a fluid of a whitish colour, with a large quantity of sediment."

No. 1981 is a doubtful preparation, but upon the whole seems to present an appearance of regular vesicular disease: on the other hand, in No. 1982, we have a number of bony cysts occupying a portion of the parenchyma of the kidney, which bony cysts were said to have been filled with purulent matter. It is probable, however, that these cysts were not of the nature of false hydatids, but rather of the true hydatids, similar to what we meet with occasionally in the liver.

In the same museum, viz. that be-

longing to the College of Surgeons in Edinburgh, there are also several other preparations to which I shall next allude*.

They were placed there by the donor in illustration of a morbid change which he states to be comparatively of frequent occurrence in the practical anatomical rooms, and accompanied with this peculiarity—that neither the medical certificates, nor the history of the person, where that is attainable, nor the morbid appearances found in the body in addition to the renal disease, seem in any way connected with that disease; or, in other words, that the persons had uniformly died of other diseases, uninfluenced and unconnected with the renal disease; so that in no one instance did it appear to him that the medical attendant had even suspected the presence of a disease which alone, in course of time, would probably have led to fatal results. The patients had, in fact, died of fevers, accidents, acute inflammations, &c. &c.

In Nos. 2003 and 2004 we have specimens of what may be considered as the commencement of the vesicular disease of the kidneys. The cysts are very numerous, mostly small, there being but one or two of any considerable size; they are placed so uniformly just within what may be termed the outer capsule, that their existence elsewhere, that is, imbedded in the substance of the kidney, might fairly be doubted; but I shall afterwards endeavour to show that, although in by far the greater number of cases the cysts are insulated, and occupy the space between the capsule and the cortical substance of the kidney, elevating, as they grow, the former, and compressing and destroying the latter, yet it is perhaps scarcely to be doubted that occasionally, though rarely, they seem to be developed in the centre of the cervical substance itself. They have never yet been seen in the tubular part of the kidney.

These preparations, together with several others placed in Dr. Knox's present museum, were put up also with other views, viz. to show that each cyst or false hydatid had a distinct, tolerably firm, though pulpy looking, capsule belonging to itself; that this capsule, with its contained limpid fluid, could

easily be dissected from out its position, notwithstanding its adherence to the capsule of the kidney; and that, moreover, it seemed to be placed almost universally between two capsules, both appertaining to the kidney; viz. an outer or external smooth capsule, usually considered as fibrous, and an inner (not admitted by most anatomists) or cellular. The existence of this inner membrane, whether it be called a tunic or not, is undeniable; it seems to be cellular. False hydatids are, with exceedingly few exceptions, developed betwixt it and the outer or true capsule; and, as has been already seen, may readily be dissected from their connections with both. However formed, this fact at least is certain—that false hydatids are not formed at the expense either of the external or internal capsules of the kidneys. In addition to these preparations, others, No. 2005, were presented to the same museum by Dr. Knox, with the same views and about the same period, or so late as 1827; and since then so many similar cases have occurred in the practical rooms, that they ceased to present any novelty or interest, and therefore only some five or six more were preserved. These illustrate uniformly the above facts, showing especially the extreme rarity of the formation of false hydatids in the substance of the organ itself; a circumstance which, on the other hand, some anatomists believe to happen not unfrequently. They perhaps throw some further light, although scanty, on the anatomical history of these cysts, without leading, however, to any decisive conclusions. A preparation, marked 176, in the private museum of Dr. Knox, points out that the cysts are either single or disposed in groups, but all formed betwixt the double capsules of the kidney: when grouped they adhere slightly to the exterior of each other: they vary, moreover, from the size of a pin-head, or a little more, to twice the capacity of a walnut.

The preparation marked 705, in Dr. Knox's private museum, is the left kidney of a woman, æt. 22, who died in the House of Refuge two days after delivery. The interior of this kidney is filled with a substance not unlike putty in appearance and consistence. Externally the kidney was lobulated like the foetal kidney; when cut into

* Presented to the museum, by Dr. Knox, in 1825 and subsequent years.

the parenchyma showed a dingy yellow colour, was reduced much in bulk, and slightly cartilaginous.

The ureter, and pelvis of the ureter, were all but obliterated, and the calyces and infundibula were filled with the putty-like substance above spoken of. Towards the bladder the ureter had been entirely obliterated, so that no entrance into the bladder on this side could be found: the right kidney was of a very large size, and weighed nine ounces, being thus about five above the normal weight: the cortical and tubular part were of a deep brick-dust colour; in short, it was very vascular and hypertrophied, but otherwise appeared quite healthy. This case perhaps originally commenced as one of false hydatids; but many reasonable doubts might be entertained against this opinion.

In addition to these specimens, the same museum contains three other specimens of kidneys removed from middle-aged persons, in all of whom both kidneys were equally affected with the vesicular disease or false hydatids; and all had died of diseases seemingly unconnected with any renal affection.

The cysts appear, with one or two exceptions, to be situated between the capsules, and therefore quite on the outer surface of the kidney; still there are one or two cysts which do seem to have been developed in the cortical substance. In two of the cases the cysts are distinct; in the other they are crowded together or grouped; the smaller ones lying outside the larger, and touching and adhering to their outer surface: this arrangement is not so frequent as the first.

Mr. Meckel notices the renal disease I now describe in his *Manual of Anatomy*, t. iii. p. 583; and he quotes as an authority a work I have not seen, viz. O. Reer, *De renum morbis*; Ralle, 1799, tab. vi. Mr. Meckel's remarks, though brief, are much to the point.

"Frequently also we find developed in these glands (the kidneys), and especially in persons advanced in years, often an enormous quantity of serous cysts, almost always adherent, filled with a diversely coloured, and frequently a limpid liquid, which destroys almost entirely their substance. In certain cases the kidney seems to be originally formed of such cysts."

In 1829 that distinguished patholo-

gist Dr. G. Andral published his *Précis d'Anatomie Pathologique*, in which he notices false hydatids in the kidneys in the following terms (vol. i. p. 632, sec. Lesions of Secretions):—"Under this head I comprise, as for the other organs, the various morbid products which seem to be deposited in the parenchyma of the kidney by a process analogous to that which in every living molecule produces perspiratory exhalation. I do not therefore now speak of alterations of the urine: these shall be examined afterwards. 1st, Serosity. In the place of a portion of the cortical substance of the kidney are found often enough small cysts with serous walls, which adhere feebly to the renal tissue, and which contain a limpid and colourless liquid. These cysts, which are generally small, and but little elevated above the exterior surface of the kidney, at times acquire an enormous development. As they increase so does the substance of the kidney become atrophied; and it often happens that on making a post-mortem examination we find nothing in the place of the kidney but a vast serous pouch, whose cavity is frequently divided into several compartments." M. Andral thinks that no preceding irritation caused these cysts, but offers, in that work at least, no further observations respecting their history.

The numerous preparations I have examined, with every possible care, do not permit me to agree altogether with M. Andral's description of the connexions of these renal cysts. For, in the first place, they are not generally deposited in the parenchyma of the kidney, but quite the reverse; neither do they adhere to the renal tissue.

Dr. Cruveilhier, to whom all pathological changes must be well known, has devoted in his great work (*Liv. vi.*) a section illustrated by lithographic views to the renal disease I now consider. He terms the disease the "encysted production" of the kidneys, between which and the "encysted transformation" he draws a broad distinction. "No organ (he remarks) is more subject than the kidneys to this change." In the "encysted transformation," the kidney, distended by urine, pus, or mucosities, soon loses its character of a peculiar tissue, and becomes converted into a multilocular pouch, whose cavities or compartments communicate with each

other by openings more or less narrow, generally circular, &c. &c. There is a very remarkable preparation of this organic change in Dr. Knox's museum. He describes it in his lectures as having met with it in 1826-27. In the "encysted production" the same mechanism, according to M. Cruveilhier, does not take place: "small cysts appear here and there in the substance (*épaisseur*) of the tissue of the kidney, and it has seemed to me that this always has happened in the middle of the cortical or granular substance. Thus the greater number occupy the surface of the organ. They may be met with, it is true, often enough on a level with the tubular substance; but let it be carefully noted that this appearance is owing to this—that the granular substance conceals considerable prolongations between the cones of the tubular substance which occasionally reach the internal surface itself of the renal pouch."

M. Cruveilhier next alludes to their frequency, as permitting their being examined in all states, from a miliary size to that enormous bulk sometimes destroying the substance of the kidney itself. A single one is seldom seen, oftener several, at times innumerable. The contained matter also varies, being limpid, differently coloured, or a turbid blackish, yellowish matter, or even a cretaceous matter. He admits two modes of formation. Sometimes there are cysts formed at the expense of the inner cellular tissue; at other times a granulation, whose communication with the tubular part of the organ has been established, becomes distended by the accumulation of liquid which it furnishes; its walls soon undergo a fibrous transformation, and then a cyst is formed; hence the multiplicity of these cysts. He proceeds to say (p. 2), that as this "transformation" (?) goes on, the proper tunic of the kidney is at last destroyed. He explains, by the presence of small portions of the tissue of the kidneys protruding, as it were, or escaping from pressure in the spaces between the roundings of the cysts, why many persons live so long with the vesicular disease without shewing any marks of renal disease. He next mentions two kidneys enormously enlarged by the presence of their cysts, which had been sent him by Dr. Chomel from the body of an apoplectic, and alludes at the same time to the condition of

other two kidneys similarly diseased. Besides two adult kidneys, M. Cruveilhier has figured the kidney of a child three years old similarly affected: not a vestige of the proper tissue of the kidney remained. M. Cruveilhier considers the disease in this case to have been congenital. From many preceding remarks it may be readily gathered in what respect the observations contained in this memoir differ from those of M. Cruveilhier's. I need not therefore contrast them further.

The "encysted transformation" is merely the pathological condition of the kidney, sufficiently well known, wherein the parenchyma of the kidney, tubular as well as cortical, has been altogether, or nearly altogether, destroyed by the accidental obliteration or obstruction of the ureter by means of a calculus. In this case the parenchyma or substance of the kidney gets placed between two very unyielding powers; and a pressure, slow but constant, and always increasing, finally destroys the essential part of the organ. The forces effecting this are the accumulated urine within the ureter, pelvis, infundibula, and calyces, from within; and the comparatively unyielding double capsule without or externally. The false hydatids of Baillie, or vesicular disease, in their production, in so far at least as they have yet been examined in this country, do not accord with M. Cruveilhier's speculations. In 1831 Mr. Mayo published a very useful *Manual of Pathology*, with references chiefly to the preparations then existing in the Medical School at Somerset House, (King's College), London. In that work, vol. ii. he takes notice of the disease I now speak of in the following terms:—

"6. Lesions. Cysts. Small cysts containing a transparent liquid are common in the kidney (p. 45). Their growth is supposed to be slow, and they generally produce no derangement of the function of the gland." He afterwards quotes two unusual cases of renal cysts, communicated the one to the *Med. Chir. Transactions* by Mr. C. Hawkins, and the other described by Sir B. Brodie in his lectures on the Urinary Organs. They are very remarkable cases unquestionably, but the first does not afford information in respect to the history of the disease I now speak of, being merely a case in

which a large cyst formed on the surface of the kidney of a child, in consequence apparently of a mechanical injury, and productive of a fatal result. The second is a much more valuable case, in respect to its details especially; it gives us a glimpse of the symptoms which occasionally it would appear accompany this disease; although it is by no means improbable, however singular it may appear, that such symptoms, and indeed symptoms of any kind, are yet at other times altogether wanting. But, after having resolved to republish the case here, upon more mature reflection I have thought it better not to do so, on observing that in addition to the presence of cysts in the kidney, there were other morbid appearances present, leading to the conclusion that the case was by no means one of simple uncombined vesicular disease.

I shall now bring these hasty and brief remarks on renal cysts to a conclusion, by adding merely a few observations on some points of interest more remotely connected with their history.

1st. It would appear that the medical history of the encysted disease of the kidneys is still to be commenced; its symptoms, progress, results, &c. are nearly unknown. In one case only have I found a few meagre details of the symptoms of the disease during life: the preparations is marked 2002 in the museum of the College of Surgeons; and the MS. catalogue bears upon it that "these kidneys were found in the post-mortem examination of an aged person (62) who had been long troubled with pain and difficulty in micturition, and who ultimately died from suppression of urine combined with slight peritonitis." Both kidneys presented numerous cysts or false hydatids, but the parenchyma has not been much destroyed. So meagre an account of symptoms is not calculated to elucidate the real nature of any disease.

Most writers seem to think that this renal disease may run its course without giving rise to any appreciable symptoms: this opinion is not a satisfactory one.

2dly. That diseased kidneys frequently give rise to mistakes in respect to their nature and locality is quite certain. They are not unfrequently mistaken for spinal disease; and this the more readily that they actually give rise to symptoms which can proceed only from

a disturbance in the functions of the spinal marrow. Mr. Stanley's memoir, in the eighteenth volume of the *Medico-Chirurgical Transactions of London*, proves that in peculiar constitutions renal disease may produce paraplegia, or at least give rise to many symptoms strongly simulating disease of the spine, spinal marrow, or of its membranes. Dr. Knox informs me that he has on two occasions attended post-mortem examinations of cases wherein some of the most distinguished physicians had predicted spinal disease, but where nothing was found but renal degenerations, and more especially false hydatids.

3dly. That a single kidney may perform the functions which were originally performed, and were intended to be performed by both, is a well-known fact. The case of a woman who died in the House of Refuge two days after delivery, already mentioned, would alone prove it: in that instance the functions of the kidney (the left) must have altogether ceased: the organ having been destroyed by disease. The right had increased in weight and bulk: it weighed, in fact, nine ounces. But the kidneys may perhaps be at times of unequal powers from birth. I remember examining (along with my friend Dr. Knox) those of a very aged person, in whom they appeared quite sound. The one weighed two ounces; the other seven and a half ounces; it was very vascular, but was of a natural colour. The preparations are in his museum.

Dr. Andral mentions a case in which one kidney had been entirely converted into a gelatinous-like substance; the other in the meantime performing the duty of both.

4thly. The substance or parenchyma of the kidney, as is well known, may be destroyed from without or from within. The cysts called false hydatids may be seen to exercise the pressure from without, so that the cortical part of the kidney suffers first. As they slowly or more rapidly increase, the outer tunic of the kidney yields to a certain extent only: in the meantime the parenchyma gives way also; so that, on examining one of these diseased kidneys, and puncturing one of the larger cysts so as to allow of the escape of the contained fluid, the surface of the kidney has an appearance as if an oval or rounded portion had been fairly scooped from off

its outer surface. The following are the remarks made from a very considerable number of observations:—

1st. The pressure exercised by the increasing cyst tells more severely upon the substance of the kidneys than upon the capsule. Both indeed give way; the capsule expands, and the parenchyma is destroyed by the pressure; so that when a cyst has been punctured, and the fluid allowed to escape, a well-marked deep excavation is found in the place of the cyst. This hollow is formed at the expense of the parenchyma, and more especially first by the atrophy of the cortical part.

2dly. The cyst has a distinct capsule which may be dissected fairly from out its connections with the capsules of the kidney, leaving each entire. The examination of this sac under the microscope gives little additional information; but it has not a cellular appearance, at least under a glass of ordinary power.

3dly. The contents of those cysts examined when fresh have always been limpid: a few very small bodies, like crystallizations, were occasionally found in them.

Lastly, anatomists are by no means agreed as to the number of capsules investing the kidney. Winslow (vol. ii. p. 177, translated by Douglas) describes the proper coat of the kidney as composed of two laminæ, between which there is likewise a very fine cellular substance, which may be made sensible by blowing through a pipe between the laminæ. His description of the capsules of the kidney is in other respects extremely minute. Boyer, on the other hand, (vol. iv. p. 461), denies that the proper investing membrane of the kidney can be divided into two laminæ:—"On ne peut pas la diviser en deux lames." Meckel admits of but one proper capsule. I have always considered the proper capsule of the kidney as constituted of two distinct layers, as described by Winslow. Dr. Knox, in his valuable lectures, described the proper capsule of the kidney as constituted of two distinct layers, differing in their nature and in their arrangement from each other. The pathological anatomy of false hydatids leaves little doubt on this point.

AMADON AS A SURGICAL APPLICATION.

To the Editor of the Medical Gazette.

SIR,

IF the following remarks on the use of amadon, founded on considerable experience in the use of it, are thought of sufficient importance to entitle them to a place in your journal, you will oblige me by inserting them in an early number.—I remain, sir,

Your obedient servant,
J. WETHERFIELD.

1, Henrietta St. Covent Garden.

This substance, in popular use for lighting pipes, is not unknown to the profession, having been recommended as a remedy to suppress hæmorrhage; but I am not aware that it has ever been applied to any other purpose. From its extremely soft and elastic nature, this substance is decidedly superior to every other, at present in use, both as a medium for applying support and pressure, and for defending the tender and inflamed skin arising either from friction or the pressure of hard bodies; and I have accordingly, for several years, employed it with success, in the form of a graduated compress, in the umbilical hernia of new-born infants, and as a compress over fistulous ulcers, as in the groin after suppurating bubo, instead of the usual mode of a graduated compress of lint, which soon loses its elasticity, and becomes a source of irritation on the inflamed skin, especially if the patient is obliged to use exercise. A graduated compress of amadon, applied in conjunction with the spica bandage, will be found to facilitate the healing of these fistulous sores. In defending parts from pressure it is an admirable application, preventing those ulcerations so often produced by long confinement to one position: for this purpose it may be spread with soap plaster, and applied over the sacrum and ossa ilia; and it is equally efficient as a defence against the galling occasioned by the springs of steel trusses, in persons of spare habit, and whose skins are irritable.

It forms the best corn-plaster I have ever used: so shaped as to take off the pressure from the central prominence and painful thickened cuticle, and spread with a mild anodyne plaster, it

effectually defends them, relieves the pain, and they are removed by the process of absorption. As a support to varicose veins, it has answered better than rollers, laced stockings, or any of the contrivances at present usually employed for that purpose, giving a steady equable support without the aid of a roller; the substance and elasticity of the article itself affording sufficient resistance to the enlarged veins: for this purpose it should be spread with soap plaster, and applied, if possible, in one piece, over the limb. Repeated trials have proved the efficacy of the amadon in the cases above mentioned; and by directing the attention of the profession to it, other uses will soon be found to which it may be applied with advantage. The manufacturer, too, will be more careful to select the purer sorts of it for medical purposes, as, at present, it is rather difficult to obtain a supply sufficiently equable in surface and substance to apply, with success, in cases where a piece of considerable size is required, as in covering a limb for varicose veins.

ON THE
PRESENCE OF SULPHOCYANOGEN
IN THE SALIVA,

IN VARIOUS DISEASES;

ITS VALUE IN DIAGNOSIS, AND IN DETERMINING
THE INFLUENCE OF MERCURY
ON THE SYSTEM.

By W. DAVIDSON, M.D.

Physician to the Glasgow Royal Infirmary, &c.

(*For the Medical Gazette.*)

I HAVE been engaged for several years, at considerable intervals, in making experiments upon the saliva, chiefly as regards the presence of sulphocyanogen in this fluid; and the able papers of Dr. Bird in the *MEDICAL GAZETTE* have induced me to repeat a number of them, and arrange the whole for publication. The pathological condition of the saliva has hitherto attracted little attention as a means of diagnosis, and although the present researches consist chiefly of negative results, yet perhaps they may be made available for the planning or elucidation of experiments of a more extended or definite description, or induce others to cultivate this field of inquiry. I shall not bring forward any evidence to prove the ac-

tual existence of sulphocyanogen in the saliva, as this point has been ably handled by Dr. Bird, but shall assume the common opinion to be correct, that the red colour produced by the addition of the sesquichloride of iron (permutiate) to it, is owing to the presence of this substance. The particular reagent employed was the Tinct. Ferri Sesquichlorid., which, in the majority of the experiments, was neutral, or nearly so; and from two to four drops of it were added to the saliva; the quantity of the latter having varied, in the different experiments, from two to four drachms. I believe it to be generally admitted that sulphocyanogen is rarely absent in the saliva of a perfectly healthy individual. During my lectures on *Materia Medica* I have been accustomed, for the last ten years, to show the reaction of the sesquichloride of iron on saliva: first, to compare the colouration produced in it with that of the meconate of iron, as caused by the addition of the same reagent to a solution of opium; and second, to contrast the colouration with its invariable absence in saliva secreted by a person under the influence of mercury. The saliva collected for these experiments was procured from a variety of different individuals, all apparently in health, and, with one exception, viz. the porter of the Medical School to which I was attached, all the specimens assumed a blood-red hue on the addition of the sesquichloride of iron. His saliva was tried on two or three different occasions, at the interval of six months, but it never exhibited the slightest trace of colouration beyond the pale yellowish tint which is sometimes produced by adding the reagent in excess. Although its presence be pretty uniform in the saliva of a perfectly healthy individual, it is by no means so in that of persons labouring under a variety of diseases, and there are none in which this is more remarkable than in mercurial salivation. Dr. Ure appears to have first noticed this peculiar property of *mercurial saliva* in a paper on opium, which is published in *Brande's Journal* for July, 1830, and he states, "that it may afford a valuable indication to practitioners in doubtful cases." But this fact seems to have attracted little or no attention from writers on medical jurisprudence as one of the symptoms which characterize the action of mer-

cury upon the salivary secretion. I have tested a great number of specimens, and where the salivation was decided have never found a single exception: indeed, in some instances, I have been disposed to think that the permuriate of iron was also decolourized; for even when added in considerable excess not even a yellow tint was developed.

The copious secretion and consequent dilution of the saliva does not appear to be the reason why mercurial saliva is not coloured red by the permuriate of iron; at least the two following experiments tend to prove this approximately.

1. D. Logan was admitted into the Glasgow Infirmary with dropsy, resulting from hypertrophy and valvular disease of the heart; and was copiously salivated with calomel and opium on the 3d of August, 1841. Seven ounces of ropy slightly alkaline saliva were collected, which was slightly coagulated with the Tr. Ferri Sesquichlorid., but not in the least degree altered in colour. This quantity, *minus* the two drachms used in the above experiment, was afterwards evaporated with a gentle heat to two ounces; but it gave no red reaction with the permuriate of iron, and was still alkaline.

2. Mrs. M'Donald was admitted (from the Isle of Skye) with sibbens, there being extensive ulceration of the fauces, and she was salivated with the mercurial pill on the 9th of August, 1841. The saliva was foetid, nearly neutral, and the addition of sesquichloride of iron produced no change of colour. Four ounces of her saliva were evaporated by a gentle heat to one ounce, and the transparent portion of it was tested with the same reagent, without any change except slight coagulation.

From the sulphocyanogen being so uniformly absent in *mercurial saliva*, it might fairly be presumed that this was owing to the constitutional action of the mercury; but in order to determine this point, and to obviate the objection of its being also absent in some diseases, I made the two following experiments.

1. J. Hunter, æt. 35, admitted June 30, 1841, with chronic rheumatism of eight months' duration. Pulse 80. This patient's saliva assumed a deep red colour on the addition of the permuriate

of iron. He was salivated on the 10th of July following; and his saliva, which was neutral, although coagulated, was not otherwise altered in appearance by the addition of the reagent.

2. James Daily, admitted on the 9th of August, 1841, for anasæra and ascites, accompanied with albuminous urine. His saliva, as in the former case, was tested on his admission, was found neutral, and distinctly, although not deeply, reddened by the addition of the permuriate of iron, but not coagulated. He was salivated on the 16th of August following, but no trace of red colour in the saliva was produced by the addition of the reagent, but it was slightly coagulated. Although, therefore, the action of mercury on the system appears to extinguish the presence of sulpho-cyanogen in the saliva, it does not seem to do so permanently, or after that action has completely subsided, which sometimes happens to be a considerable time. I have no very decided facts to bring forward in support of this opinion, but several of the patients whose saliva I tested, and found it to contain sulpho-cyanogen, have spoken of former salivations; and there was one person in particular who had been often salivated for acute rheumatism, whose saliva assumed a deep-red colour on the addition of permuriate of iron. I have tested mercurial saliva after being kept for six, twelve, and eighteen months, but never could detect any sulpho-cyanogen. On the other hand, I am disposed to think that it may exist in some species of saliva, although not discoverable by the permuriate of iron. I have tested the saliva of four patients labouring under diabetes mellitus, (two of them being at present in the hospital), and none of the specimens gave the least indications of the presence of sulpho-cyanogen. I kept, however, the saliva of one patient (M'Ewan, whose case is related in the MED. GAZETTE for October, 1840), for three months; and, after decomposition had taken place, the addition of the permuriate of iron produced the characteristic red colour, accompanied with a whitish precipitate. Can the sugar, which is now believed to exist in the saliva of such patients, prevent the action of the test, as is the case with diabetic urine, in regard to other reagents? In conjunction with the above case it is proper to state that I did not discover it in the saliva

Disease.	Age.	Sex.	Pulse	Treatment.	ACTION OF REAGENTS.	
					Litmus.	Sesq. Chlor. Ferri.
Chorea	8	F	72	Am. Cupri		No colouration.
Porrigo	7	F	72	Laxatives		Blood red.
Aneurism		M	68	Acet. Plumb.		Faint red.
Eczema		M		Sulphur. Potass.		Pretty deep red.
Do. Case 2	25	F	72	Sulphur. Potass.		Distinct red.
Diarrhoea	45	F	68	Opium, catechu		Very faint red.
Dropsy	37	M	100	Mercury salivation		No colouration, coagulation.
Do. Case 2	30	F	76	Calomel salivation		No colouration.
Do. — 3	53	F	100	Pulv. diuret.		Faint red.
Do. — 4	50	F	80	Pulv. diuret.		Faint yellow.
Do. — 5		M	72	Mercury	Neutral	Faint red.
Do. — 6		M	88		Acid	No colouration.
Do. — 7	20	F	96	No treatment in hospital	Neutral	No colouration, coagulation.
A. Rheumatism	17	F	90	Colchicum		No colouration.
Do. Case 2	21	M	80	Mercury salivation	Neutral	No colouration.
Jaundice from diseased liver	64	M		Gentian		No colouration by T. Ferri or Acid. Nitros.
Furunculi	40	F	68	Ol. Ricin.		No colouration.
Bronchitis	29	F	90	No treatment		No colouration.
Do. Case 2	28	M	68	No treatment		Blood red.
Diseased heart	24	F	100	No treatment		No colouration.
Do. Case 2	20	M	112	No treatment		Faint red.
Chr. Rheumatism	35	M	80	No treatment	Acid	Distinct red.
Do. Case 2	29	M	76			Faint red.
Do. — 3	50	M	68	No treatment	Acid	Distinct red.
Strumous arthritis	18	F	100		Neutral	Reddish.
Dyspepsia	58	M	78		Neutral	Faint red.
Inflammation of mamma	18	F	84		Neutral	No colouration, coagulation.
Syphilis, secondary		M	72	Mercury salivation		No colouration, coagulation.
Do. Case 2	20	F	95	No treatment in hospital	Acid	No colouration, coagulation.
Erysipelas		F	90	Purgatives		No colouration.
Paralysis		M	84	No treatment		No colouration, coagulation.
Do. Case 2		M	68	Mercury salivation		No colouration.
Do. — 3	50			Proto-carb. Ferri		Faint red.
Do. — 4	35			Purgatives		No colouration.
Lepra & Psoriasis	35	M	72	Ung. Iod. Sulphur.		Faint red.
Do. Case 2	10	M				Blood red.
Do. — 3	27	F	68	No treatment		No colouration, coagulation.
Do. — 4	26	M	65	No treatment	Neutral	Faint red, coagulation.
Phthisis			100	Quinia		No colouration.
Do. Case 2	16	F	78	Bicarb. Sodæ		Pretty deep red.
Diabetes mellitus		M	68	Opium		No colouration.
Do. Case 2		M		Opium		No colouration.
Do. — 3	16	M	72	T. Ferri et T. Opii		No colouration.
Do. — 4	28	M	68	T. Ferri et T. Opii		No colouration.
Hydruria				Opium		No colouration.
Do. Case 2				Opium		Blood red.
Typhus				Diaphoretics		No colouration.
Do. Case 2				Diaphoretics		No colouration.
Do. — 3				Wine		No colouration.
Do. — 4				Wine		No colouration.
Febricula				Diaphoretics		No colouration.
Do. Case 2				Diaphoretics		No colouration.
Pneumonia				Bleeding, &c.		No colouration.

of the patient Levi, (whose case is also given in the *MED. GAZETTE*), who laboured under hydruria, with rather an excess of urea.

About three years ago, when acting as physician to the Glasgow Fever Hospital, I made several experiments with the saliva of patients that were treated there, chiefly with the view of ascertaining whether any characteristic of typhus could be obtained from this source. It was difficult to procure saliva in sufficient quantity from the typhus patients, owing to the great diminution of this secretion in the disease; but I obtained enough from four individuals who had the characteristic eruption, and in none of the cases did the permuriate of iron cause any change of colour in the salivary fluid. I also tried the saliva of two cases of febricula, and that of one case of pneumonia, with the same results. In order, however, to condense the results of my experiments upon the saliva of patients affected with different diseases, a table has been constructed, in which the disease, sex, pulse, treatment, reaction of permuriate of iron, &c. are noted; but it also includes those cases which have already been described, as they required some separate remarks.

From the above experiments, as detailed, and from those noted in the table, when taken in conjunction with what has been already published regarding this subject, we are warranted to make the following approximate deductions; subject, in all probability, to modifications by future observations:—

1. That sulpho-cyanogen is frequently not present in the saliva secreted by patients labouring under various diseases, at least that it is not discoverable by the sesquichloride of iron.

2. That it is very frequently absent in febrile diseases, and in others where the permanent range of the pulse is considerably above the natural standard.

3. That it is invariably absent in distinct salivation produced by mercury, and that the non-reaction of the sesquichloride of iron upon the saliva does not seem to depend upon its great dilution, for when concentrated the same indications are produced.

5. That the presence of certain foreign constituents in the saliva, such as sugar in diabetes, may probably prevent the action of the reagent, or in

some cases cause the red colour to be evanescent.

6. That, though the presence of sulpho-cyanogen in the saliva is not to be depended on as a criterion of good health, yet that its absence ought to excite an investigation into this point.

7. That the absence of sulpho-cyanogen in the saliva, when taken separately, is no proof of the action of mercury on the system; although when this secretion is copious, *fœtid*, of light specific gravity, attended by spongy or ulcerated gums or cheek, and accompanied with this chemical characteristic, there will exist the strongest reasons for believing that this mineral has been exhibited.

October 30, 1841.

INTERESTING CASE
OF
UTERINE HÆMORRHAGE,
IN WHICH THE PLACENTA WAS SITUATED
OVER THE OS UTERI.

*With some Remarks on the Treatment
of similar Cases.*

BY JOHN C. HALL, M.D. F.L.S.

“Hæc menorrhagiæ species est periculosissima
nullo remedio, sed sola extractione fœtus cu-
randa.”—*Plenck*.

(For the Medical Gazette.)

IN the last number of the *Medico-Chirurgical Review*, the talented editors remark (speaking of a work on Injuries of the Head), “it would be well if all works were of this unpretending character; the author has had many opportunities for observation, and has here given the result of his experience.” The *LONDON MEDICAL GAZETTE* has ever appeared to me the Record Office of our profession, in which we are all invited faithfully to register the result of our experience; by stating, not only the cases in which we have been successful, but also others in which disease has triumphed over the means employed. Holding that it is criminal to conceal from my professional brethren the result of my own practice, I have for some years past been a frequent contributor to the *MEDICAL GAZETTE*, and venture again to solicit the insertion of the following very important case, seeking no other reward than the satisfaction of one day being able to exclaim, “*Nec ego frustra.*”

On Monday, October 18th, I received

a note from Mr. Jackson, a surgeon residing at Bawtry, requesting me to see Mrs. F——, of Stone Hill, a patient of his, at that time suffering from uterine hæmorrhage. I found her weak from the continued flooding, which she said had commenced, for the first time, about a fortnight ago. On stooping down she discovered a small discharge, which appeared to be blood, coming from the vagina: this had continued more or less since that period. She supposed that she was in the sixth month of pregnancy. She was the mother of six healthy children. The loss of blood had evidently been very great; and it at once appeared clear to me that, if she was not speedily delivered, nothing could prolong life. On introducing the finger, I found the os uteri, notwithstanding this great loss of blood, rigid, and not sufficiently dilated to admit the point of the finger. I did not, however, consider this (and my friend agreed with me) a case in which it would be prudent to trust to plugging the vagina with sponge or a silk handkerchief; for, although we might have commanded the flooding externally, we could not have prevented the flooding internally. Dr. Burns remarks, “there are instances on record, and these instances ought to be constantly remembered, where the blood has collected within the uterus, which, having lost all power, has become relaxed, and, being slowly enlarged with coagula, the strength has decreased, the bowels become inflated, the belly swelled beyond its size in the ninth month, although the patient may not have been near that period, and, under these circumstances, when an inattentive practitioner has, perhaps, concluded that all was well with regard to the hæmorrhage, the patient has expired, or only lived long enough to have the child extracted.”

I am not prepared to fix a rule, which the experience of the best men of the past and present age have agreed to adopt, in cases like the present, in which, although much blood has been lost, the parts are still rigid. Plenck directs the child to be delivered by turning: “*quamprimum uteri orificium adeo hiat, ut duo digiti inferri possint.*” We must, however, duly and carefully consider the case in all its bearings, the quantity of blood lost, the strength of the patient, and the actual state of the

part: these things must be fully taken into review, and we must act accordingly. The advice of Dr. Burns is highly important. He remarks, “although I have said that we may wait safely until the os uteri begins to open, and asserted that no woman can die from mere hæmorrhage before the state of the os uteri admits of delivery, I must yet add on this important subject, that this state does not consist merely in dilatation; for it may be very little dilated, and yet in a state of dilatability.”

After some little time, Mrs. F—— again complained of a fresh attack of flooding, and a second examination was instituted. With some little difficulty the finger was made to pass within the os uteri. From the removal of the coagulated blood, the hæmorrhage became a little more profuse, and I was enabled to detect the placenta. When the placenta presents, it can easily be distinguished from the clotted blood by its firm, fibrous structure, and by its being attached at one part of the uterus, and separated at another. My old friend and teacher, Dr. R. Lee, of St. George's Hospital—whose pupil it was my good fortune to be for some years—in his valuable work on “Some of the most Important Diseases of Women,” page 207, remarks, “it may be laid down as a rule admitting of no exception, that where hæmorrhage occurs from the placenta being situated over the os uteri, artificial delivery must be performed.” Remembering this advice, I proposed to my friend, Mr. Jackson, that we should at once proceed to the delivery of our patient. This I effected in the following manner:—I gently dilated the os uteri until my hand could be admitted, in a conical form, between the uterus and placenta, and passed it very gently upwards at the part where the separation had already taken place. I then ruptured the membranes, and had the mortification to find that the hand presented. This, however, was returned, the inferior extremity of the child brought down, and the fœtus and placenta slowly extracted. I would here venture to add that the plug ought never to be employed when the os uteri is soft and yielding; for if the uterus is in a condition to be emptied of its contents, the sooner it is done the better; and I am fully convinced that more cases are lost

by delaying too long, than resorting to this operation as soon as possible.

I am happy to add, in the present case, that the unfortunate sufferer, though weak and exhausted from the great loss of blood, is now much better, and fast hastening on the road to health.

CASE II.—Mrs. Loveday, of Earl's Court, Kensington, æt. 35, mother of six children, was suddenly attacked with considerable hæmorrhage during the seventh month of pregnancy. At the time she was first seen, the hæmorrhage had continued four hours. The os uteri was soft, and dilated to the size of a shilling; the placenta presented. In about half an hour the flooding increased, and the os uteri yielded sufficiently to allow the careful introduction of the hand. The breach presenting, the feet were easily brought down, and the patient delivered of a dead child. This lady completely recovered.

CASE III.—This case, abridged from the valuable work of Dr. Merriman, well illustrates the danger of delay in cases of "unavoidable uterine hæmorrhage." Mrs. J——, when between seven and eight months advanced in pregnancy (her ninth) had a slight degree of hæmorrhage, which did not return until after she had completed her eighth month. It then became so profuse that she sent for her accoucheur, who concluded, from the fulness and thickness of the parts interposed between his finger and the head of the child, that the placenta was attached to the cervix uteri. Every possible means were taken to prevent an increase of the hæmorrhage, and the nurse and friends strictly charged to send without delay on any return of the flooding. Several days elapsed without any cause of alarm; but, on the 28th of January, it returned, and was profuse at times. She wished to send for her medical attendant; but the woman about her said he could do no good without pains. By this very absurd reasoning she was prevented seeking timely relief. Towards morning she suddenly became so faint and sinking as to alarm every one about her. A very urgent message was now sent to Mr. P——, (the surgeon who was to attend her), who hastened to render every assistance; but she ceased to exist before he reached her home.

I have spoken of the manner in which

turning is to be effected in these different cases. The child is to be reached by passing the hand between the uterus and the detached placenta, and not, as some writers say, "through the placenta." In truth it is no easy matter to do so, even if such a plan were advisable. The advantages of the former plan are many:—

1. Much less violence is done to the connection of the placenta with the uterus, and thus the risk of increased hæmorrhage is prevented.

2. Much time and labour are saved.

3. We can command the descent of the feet with greater certainty.

4. We may prevent the atony of the uterus by allowing the waters to escape gradually, and at will.

5. We prevent the child from being entangled in the placenta, and this does away with the inconvenience which would arise from the increase of bulk, as in the former method the size of the placenta is added to that of the child.

6. It prevents the violent and sudden separation of the placenta from the uterus.

Much learned discussion has arisen as to the discovery of this important disease. It was known in 1683 to Paul Portal that the placenta sometimes adhered to the internal orifice of the uterus. Similar cases were mentioned by Petit. Dr. R. Lee is of opinion, that we are indebted to Levret for the first accurate account of the treatment of uterine hæmorrhage depending on the attachment of the placenta to the circumference of the cervix uteri. His first work is dated 1753. The first edition of Dr. Rigby's essay on Uterine Hæmorrhage was published in 1776, exactly twenty-three years after the memoir of Levret.

A case of unavoidable uterine hæmorrhage might occur (Dr. Lee relates one) in a woman with a deformed pelvis; such as Smellie describes in his xxviii. plate, p. 159, where the head, although compressed to only three inches in diameter, from one parietal protuberance to another, was still too bulky to pass. In such a deformed state of the pelvis it is manifest that no full-grown child can be expelled, and it becomes our duty to take steps for the expulsion of the fœtus before it is sufficiently large to endanger the life of its unhappy parent.

Northampton, October 1841.

ON ACOUSTICS.

To the Editor of the Medical Gazette.

SIR,

WHEN I first took leave to address you, and was favoured with publicity to my superficial ideas on acoustics, in reference to the stethoscope and the human ear, I entered on this department with diffidence, feeling that I was intruding on premises whence the ignorant had been excluded, and which was little known or understood by the most enlightened philosophers. My sentiments were, however, the result of experiment: diffidence was at least genial to the cause of truth, and I indulged hopes that some of your able professional contributors would have animadverted freely on the acoustic principles which I endeavoured to explain; but in this I was disappointed.

I am now induced to recur to this subject by a report of certain experiments made with various stethoscopes (of which sections are given in the *Monthly Journal of Medical Science* for July last) by Professor Forbes, of the Edinburgh University, because his experiments, and the inferences drawn from them, are, in several important particulars, analogous to those made and detailed by me, in the *MEDICAL GAZETTE* of the 29th June, 1839, and according to my understanding are in a considerable degree confirmative of the principles on which my theory is founded, as explained in my first essay in the *GAZETTE* of the 15th of Dec., 1838.

The learned professor disapproves of the stethoscopes submitted to him by Dr. Abercromby, with the exception of No. 5, divested of the plug in the expanded end, of conical or trumpet form, and of one piece in addition to the cap or ear end. I also expressed disapprobation of all avoidable cracks or breaks in this instrument, and recommended the plain conical or trumpet-formed end which is applied to the chest. By mistake the mechanic who prepared my stethoscopes made two more spherical in the expanded end, which were found not to answer, and it is pointed out in the *GAZETTE*, and in my *Treatise on the Economy of Speech in Apartments*, since published, that sound operating within such a curvature prolongs and does not keep apart distinct sounds, so as to preserve their original charac-

ter. The experiment, however, by Professor Forbes, which I consider most important, is precisely that which I practised by stuffing the bore in the stethoscope for some inches with cotton, and by which he is brought to the conclusion that predominant sounds are not only conducted by the wood of this instrument to the ear, but to the bones of the ear; and that the tremors are not, on reaching the ear, transmitted by the several cavities but by the solids, as affirmed by me, in my first paper in the *GAZETTE*, previous to my experiments with the stethoscope; also, in all my succeeding papers in the *GAZETTE* and otherwise, that so soon as the tremors of the atmosphere strike upon a sonorous solid, they are diffused with much more rapidity and intensity by the solid than by air.

If, then, the solids be in a state of sonorous action, we cannot imagine the denser fluids, which are intermixed with solids in the ear, to be still, any more than we can suppose a sonorous solid to vibrate in air without the circumambient air being in motion also.

I must here remark that my second paper, in the *GAZETTE* of the 9th February, 1839, in allusion to the phenomena in the River Cober in Jamaica, was especially intended to demonstrate the more powerfully sonorous influence of aqueous fluid, at the temperature of the human body, in contrast with air; and thus analogically to deduce, that the denser fluids in the ear are also more potent conductors of sound than the air in its central cavities*.

The most decisive demonstration of the influence of solids over air that can well be found, is that which is

* My trials with the stethoscope, and on similar principles on the ear, were, however, carried further than those of this distinguished physiologist, whose objects were, as he says, to suggest experiments to those who have leisure to prosecute them.

I used an instrument more slightly in contact with the gristle of the pinna than is usual, in various ways; it was occasionally covered externally with woollen cloth, so as to prevent sound from its outer surface influencing the ear, and by thus confining the sound to the fibre of the wood, which made no sensible difference or diminution of sound, so far as I could judge. I also put wool loosely into the concha of the ear, but this did not affect its conducting power. This must produce a similar effect to cerumen in its natural state, but if pressed into the concha must arrest action and sound in the surrounding parts, as does the cerumen in a more condensed or concrete state, when it occasions deafness.

alluded to in my pamphlet on Speech in Apartments, page 13, in reference to an individual who cannot, in any degree, hear upwards of a thousand people singing in church, until he applies one end of a bit of wood to the ledge of the seat before him, and the other end to his teeth, when he can join in the tune. This is effected by forming a general contiguity between his ears and all the solids in the church.

The simple fact, that when the cap of the stethoscope is in the slightest degree apart from the ear no sensible sound is experienced, whereas the least contact communicates sound, points out that the solids and denser fluids are the conductors that in this case take precedence.

In my paper, in the GAZETTE of the 22d January last, I endeavoured to shew, by practical demonstration, that certain solids, combined with moisture, conduct sound more intensely and distinctly than solids in juxta-position with air; and I again referred to a certain locality on the banks of the Cober for this purpose.

Professor Forbes remarks, that "the object must be to communicate the tremor from the wood to the bones of the head, not to the auditory passage;" but he omits to say any thing of the media between the instrument and the bones, although it is quite clear that the vibratory motion must be continuous from the wood of the stethoscope to the bones, supposing these to be the principal conductors in the ear. If, however, we are to reason by analogy, and consider that the pinna must be in contact with the cape or ear end of the stethoscope, and that it is a thin expanded body, composed of similar materials to the windpipe, and the mechanism in it, there is reason to believe that it is susceptible of greater vibratory action than the hard bones of the ear, whether it be operated on by a solid or by the atmosphere.

It may, then, be questioned whether sound can be transmitted with consistency to the acoustic nerve, through these two different channels, and by media of very different character: in the one case, by the fibro-cartilaginous pinna covered by vascular net-work in and under the cutical skin, and moisture in and between the lamina which is continuous from this external

arrangement to the aqueous fluid, that is so profuse in the labyrinth, and in immediate and general contact with the nerve of hearing.

I must repeat what I formerly mentioned, that sonorous solids and aqueous fluids being more rapid conductors than air, this is alone sufficient to prove that these are the chief conductors in the human ear; nor can the following facts be reconciled to the idea of sound entering the ear chiefly by atmospheric influence. The windpipe, the larynx, &c. are fibro-cartilaginous, and to produce musical and articulate sounds moisture must be combined with these; but, if dry, we cannot produce speech or musical sounds; also, that the whole solid mechanism in the cavities of the ear may be broken down, from the outer membrane of the tympanum to the fenestral partition, without deafness ensuing, but the ear cannot be deprived of any moisture without deprivation of hearing. How, then, is it concluded that musical and articulate sounds operate in, and are preserved by, air combined with comparatively dry solids in the ear, but not in the mechanism of speech. It may be remarked that the orifice in the stethoscope is straight, and the wood smooth on the surface, forming no impediment to the aerial fluid; but the external surfaces of the pinna are without any definite form, and the internal cavities in certain parts indescribably irregular, and must necessarily impede and derange the atoms of the aerial fluid, and consequently sound.

In opposition to all these natural causes and effects, must it be persisted in, that sound, in certain cases only, is conducted to the nerve of hearing by the solids and denser fluids, but more generally by the auditory passage and tympanic cavity, and that air is the preferable and prevalent conductor in this organ.

But in order further to evince the predominance and influence of sonorous solids over air, I shall give another view of this part of my subject.

The molecules or atoms of solids being more dense and hard than those of fluids, and not passing each other in the same degree, act more decisively on these cohesive and repulsive principles, and this additional friction produces more sound. It may, then, be

repeated, that vibratory action in the atmosphere takes place in all directions, and infringes on all the surfaces of all the solids that are within its reach, giving out sound in the ratio of the extent of these surfaces; but no increase of sound, nor material change, takes place in the atmosphere, while every change in the texture or position of the atoms of a solid produces alterations in the sound. These facts prove that tremor in the air is communicated to the widely-expanded pinna of the ear, and not to the minute and isolated orifice in it. In fact, generally considered, solids only produce and reflect sound. It is only by exercising such discrimination between solids and fluids that we can arrive at any measure of economy in acoustic arrangement.

Sound being the offspring of mechanical action and friction in the component parts of bodies, and their sonorous effects being determined by their adhesive and repulsive properties, solids and fluids must be adjusted as in other cases. The operations of nature dictate to us, on all other occasions of mechanical arrangement, to make use of fluids to control fluids, to propel, to check, to direct and guide fluids. Are we not then, on this occasion, to consider sonorous solids as the principal governing medium, and by their means to regulate the atmosphere in its tremulous and sonorous state, and also other fluids, according to their nature and density?

Does not the atmosphere, when propelled against a wall, in a tremulous state, recoil from it, in conformity to certain rules? is it not concentrated or expanded in passing through tubular solids, according to their forms? and is not sound concentrated or expanded in like manner, and also increased or diminished, agreeably to the nature and extent of the solid? For these and other reasons given I consider the solid to be the predominantly ruling medium, producing very different effects to the air, and requiring to be regulated and adjusted, while sound passes in air without change, and needs no artificial arrangement.

It would be just as consistent to believe that a boat should sail in conformity to our fancy, without guiding the rudder or the oar—or that a bird should fly in accordance with our imagination, without the propelling and di-

recting influence of its wings—as to imagine that sound can be regulated without due adjustment of the solids, by which it is produced and subsequently influenced.

I may hereafter suggest certain experiments which will tend further to illustrate this subject; but hope, in the meantime, that you will indulge me with space in the *MEDICAL GAZETTE* for these observations.

I am, sir,
Your obedient servant,
W. SHAND.

1, Somerset Place, Glasgow,
Oct. 20, 1841.

CLINICAL REPORTS

OF

DIFFICULT CASES IN MIDWIFERY.

By ROBERT LEE, M.D. F.R.S.

[Sixth Report.]

Cases of difficult Parturition in which Delivery was effected by Craniotomy.

THE preceding Reports contain an account of forty-four cases of difficult labour, in which craniotomy was performed. The following cases will still further illustrate the various circumstances which render this operation necessary, and the best methods of overcoming the difficulties and obviating the dangers with which it is accompanied.

CASE CLVII.—A dwarf from the Mauritius, Santiago de los Santos, married an English woman at Birmingham, whose height was three feet and three inches. She became pregnant, went to the full period, and was in labour at Chelsea, on the 14th April, 1835, under the care of Mr. Bowden. Dr. H. Davies was consulted; and finding the pelvis greatly distorted, he opened the head of the foetus on the afternoon of the 15th April, and removed with the crotchet a part of the bones of the cranium. At 9 P.M. we proceeded together to complete the delivery with the crotchet, the outlet and brim of the pelvis being so contracted that all the varieties of craniotomy forceps were perfectly useless, as they could not be applied. The operation lasted nearly five hours; and the head of the foetus could not be drawn through the brim of the pelvis, until the bones of the base of the skull were all torn to pieces with the crotchet, the point of which

was generally passed up on the outside of the head. An arm was next drawn down, and the thorax torn open and all the viscera extracted. So great was the degree of distortion, that the pelvis of the child could not be drawn through the brim of the mother's pelvis till after long-continued efforts with the crotchet. We were both thoroughly exhausted before the delivery was accomplished; and it seemed at first impossible by any means to extract the child, without producing fatal contusion or laceration of the uterus and vagina. On the 12th May the patient was walking about and perfectly well.

From this and similar cases I am convinced that the crotchet is the only instrument that can be used effectively to extract the head, after parturition, where the pelvis is greatly distorted. The undilated state of the os uteri, and the contracted brim and outlet, render it impossible to introduce the blades of the craniotomy forceps to grasp the head, till it has been drawn into the cavity of the pelvis.

CASE CLVIII.—On the 13th Sept. 1832, I was called to a patient in the lying-in ward of the St. Marylebone Infirmary, who had been thirty-six hours in labour with her first child. There was great distortion of the pelvis from rickets in infancy. The perineum and vagina were rigid, the os uteri not more than half dilated; and the whole head of the child above the brim of the pelvis. The pulse was rapid, face flushed, and abdomen tender. I first dilated the external parts gently, then passed forward the fore and middle fingers of the left to the head, and along these slid up the perforator, and opened it, and then destroyed the brain. I found it impossible to pass up the craniotomy forceps and fix it upon the head, and the extraction was slowly effected with the crotchet. It was necessary, while operating with the crotchet, to pass nearly the whole of the left hand into the vagina, that the fore finger might reach sufficiently high to guard the point of the instrument, which was passed through the opening in the skull.

The operation lasted two hours; and the bones of the skull were all torn to pieces before the head could be extracted. Dr. James Jackson, of Boston, United States, whose premature death many have lamented, was present; and

after the delivery was accomplished, he informed me that distortion of the pelvis was rare in America, and that his father had been thirty years in extensive practice at Boston, and had never met with a case of difficult parturition requiring the operation of craniotomy.

CASE CLIX.—On the 15th March, 1832, I saw Mrs. Kirby, October 29, residing in Gee's Court, Oxford Street, who had been more than forty-eight hours in labour with her first child. She was extremely exhausted; and the pains, which had long been regular and strong, had nearly gone off. The outlet and brim of the pelvis were both considerably distorted; and as the greater part of the head was still above the brim of the pelvis, and the soft parts were swollen and tender, delivery was immediately accomplished by craniotomy. The difficulty experienced in extracting the head with the crotchet after it was opened, proved that delivery could not have been completed by any other method, and that the child, if alive, could not have been preserved.

This patient again became pregnant, and I proposed to induce premature labour on the 21st July, 1838, when she was seven months and a half pregnant; but she would not consent to this. Labour came on spontaneously at the commencement of the eighth month of pregnancy. A foot presented, and the child was extracted dead, without craniotomy.

CASE CLX.—Mrs. Kirby came into the St. Marylebone Infirmary, May 23d, 1834, in labour at the full period. I was called to see her early in the morning, and found the os uteri fully dilated, the membranes ruptured, and the head firmly fixed in the brim of the pelvis. The pains were frequent and very strong. At 11 p.m., six hours after, the pains continued with increased violence, and the head was still more firmly jammed in the pelvis. A large swelling had formed under the scalp, and the meconium was escaping from the vagina. Two strong fits of convulsion had been experienced, for which a copious venesection had been employed. I found her completely insensible, with dilated pupils, and constant convulsive movements of the muscles of the face. The pains increased with such violence, and re-

curred at such short intervals, that I dreaded rupture of the uterus.

At 3 P.M. other two strong convulsion fits had occurred; and the head having made no progress I determined to deliver by craniotomy.

After the head had been perforated and drawn into the cavity of the pelvis with the crotchet, it was easily extracted with the craniotomy forceps.

The small size of the pelvis, the impossibility of applying the forceps to the head, and the imminent risk of rupture of the uterus, with the result of the former labour, were the circumstances which made me determine to open the head. The induction of premature labour was again recommended to this patient, but without success; and she again became pregnant, and went to the full period.

CASE CLXI.—Mrs. Kirby, the same patient, again came into the lying-in ward of the St. Marylebone Infirmary, on the 3d December, 1836. Labour had commenced early the preceding day; the liquor amnii escaped soon after, and the pains had continued strong and regular during the whole night. On the morning of the 3d, I received a note from Mr. Sandford, requesting my immediate attendance. The head of the child had long been firmly fixed in the brim of the pelvis. The ear could not be felt; the vagina was hot, tender, and swollen. The efforts to expel the child were violent and incessant. The countenance was flushed, and she was occasionally delirious. The abdomen tense. She expressed her conviction, when free from pain, "that she would soon burst if not delivered." I perforated the head without delay, and readily extracted it with the craniotomy forceps. The placenta was expelled soon after, and no bad symptoms followed.

In the four following cases the operation was equally necessary and justifiable, though accompanied with less difficulty and danger.

CASE CLXII.—18th Nov., 1828, I was called to Mrs. Freer, 61, St. John Street, Smithfield, with protracted labour. The membranes had been ruptured two days before, and the labour pains had been regular ever since that occurred. The os uteri was about half dilated, and the head had scarcely entered the brim of the pelvis. It was evident, from the contracted state of

the pelvis, that the head could not pass without being lessened in size. The operation of craniotomy was difficult, and there was an attack of uterine inflammation afterwards experienced, from which she recovered slowly. The late Mr. Baker assisted in extracting the head.

This patient had a lateral curvature of the spine from an early period of life, and had been delivered by craniotomy five years before.

CASE CLXIII.—Mrs. Freeman, 17, Duke's Court, Drury Lane, 19th Sept., 1828. Has had several living children. The last labour was so difficult that the head of the child was opened. She has now been two days and two nights in labour. Membranes ruptured 36 hours ago. Head firmly compressed between the sacrum and pubes, a great swelling under the scalp, and has not advanced for 24 hours. Vagina swollen and tender. Pains becoming weaker. No attempt was made to deliver with the forceps or vectis: great force was required to extract the head after being opened. Right parietal bone of the child depressed and fractured.

CASE CLXIV.—On the 5th Feb., 1829, a patient of the Middlesex Hospital, residing in Compton Street, Brunswick Square, had been in labour under the care of a midwife about 50 hours. She had been delivered with difficulty five times before, and all the children except one had been still born. I found the head impacted in the brim of the pelvis. The ear could not be touched. The orifice of the uterus not fully dilated. Pulse 110 and feeble; great tenderness of the abdomen. The pains had nearly gone off.

Considerable force was required to extract the head after it had been perforated. No attempt was made in this case to deliver with the forceps. Recovered perfectly.

CASE CLXV.—Mrs. K—, æt. 20, 3d April, 1828. In labour with her first child from Monday till Thursday night, under the care of a midwife. The navel string without pulsation prolapsed; brim and outlet of pelvis distorted; head of the child has not entered the cavity of the pelvis; os uteri only partially dilated; vagina swollen and tender; pains have been gradually diminishing in strength and frequency. Dr. H. Ley saw her with me, and approved of immediate delivery by cra-

niotomy. The bones of the cranium were all torn away with the crotchet before I succeeded in drawing the base of the skull through the brim of the pelvis: the point of the crotchet being fixed on the outside of the head near the left angle of the lower jaw, its extraction was at last accomplished. Great force was afterwards required to drag the shoulders into the cavity of the pelvis.

Though the parts within the pelvis must have been severely contused during the operation, no bad symptoms followed, and this patient has again been delivered at the full period by craniotomy.

CASE CLXVI.—Mrs. Crowther, æt. 45, Dec. 6, 1830: No. 9, Tavistock Mews, Little Coram Street.

Has had nine children. All her labours have been difficult, and the two last so much so, that artificial assistance was required, and the children were still born.

Labour commenced on the 3d inst., and the membranes were soon after ruptured. The pains were continuing feeble and irregular during the 4th, and the labour having made but little progress, 35 drops of laudanum were given by the midwife in attendance. The pains entirely ceased until the morning of the 5th, when they returned, but feebly and irregularly. At 10 P.M. two doses of the ergot of rye were given, and soon after several strong forcing pains were experienced. The movements of the infant were not felt after this, and no uterine contraction has taken place to this hour, 11 A.M. Monday, 6th Dec., when I first saw her.

The discharge from the parts is become offensive; bladder filled with urine; the vagina is swollen and tender; the head, greatly swelled and compressed, is firmly fixed in the brim of the pelvis, and the finger cannot be passed around it without occasioning great pain. The ear cannot be felt, the greater portion of the head being still above the brim.

After the head had been opened, two hours elapsed before I could extract it with the crotchet.

9th Dec.—A bad night; retention of urine; great swelling and tenderness of the parts; pulse rapid; loaded tongue; headache; rigors.

Sloughing of the vagina took place,

and on the 14th a fistulous communication had been formed between it and the bladder.

This unfortunate woman was soon after deserted by her husband, and has led a life of great indigence and misery ever since.

CASE CLXVII.—18th August, 1829. A middle-aged woman, who had suffered severely in former deliveries, being at the full period was seized with the pains of labour yesterday morning at 1 o'clock. Last night the head of the child had begun to enter the brim of the pelvis, the os uteri being then soft and considerably dilated; labour pains continued strong and regular during the whole night. At 7 o'clock this morning the pains had entirely ceased; there was an offensive yellowish-coloured fluid discharged from the vagina; the pulse was rapid, and symptoms of exhaustion had appeared; the child had not been felt to move for two days; and the meconium was passing freely. I opened the head, and easily extracted it. A quantity of a peculiarly foetid gas and offensive fluid, like coffee and milk, escaped after the delivery of the child. The placenta was soon after expelled.

Sloughing of the vagina took place in this case, and a small fistulous opening was formed between the bladder and vagina.

In this and the preceding case a great error was committed in not delivering earlier.

CASE CLXVIII.—In a patient of the St. Marylebone Infirmary, the first labour commenced at 6 P.M., 1st June, 1841. The membranes were soon ruptured; and in the night the funis prolapsed, and in a short time ceased to pulsate. At 6 o'clock the following morning, a great hæmorrhage took place from the uterus. At 8, when I was called to her, the extremities were cold; the pulse scarcely perceptible; respiration laborious, and countenance sunk; blood still flowing; the os uteri was about half dilated, and the head entirely above the brim. The head was perforated, but much force was required to draw it into the pelvis. The placenta, with a great quantity of coagulated and fluid blood, followed the child. The binder was firmly applied to the abdomen, and cold to the external parts, and stimulants were freely administered. The pulse returned, and there

was no further hæmorrhage; but she died in a few hours. The body was not allowed to be inspected.

Though the membranes had burst spontaneously at an early period of the labour, fatal hæmorrhage took place. From the great difficulty experienced in drawing the head through the os uteri after perforation, it was evident that delivery could not have been effected by any other method.

Cases of Preternatural Presentation, with Distortion, or unusual small dimensions of the Pelvis.

CASE CLXIX.—On the morning of Tuesday, April 22d, 1836, I was called to a patient, 20 years of age, who had been many hours in labour with her first child. The nates of the child presented, but could not be forced through the brim. With a blunt hook passed over one of the groins, the medical attendant succeeded in bringing down the extremities and trunk through the pelvis; the head, however, remained immovably fixed above the brim. After repeated unsuccessful attempts to open it with the perforator, and being exhausted by efforts continued for three hours to extract the head, he requested me to assist in completing the delivery. I found the occiput at the back part of the pelvis, and the chin over the symphysis pubis, and the anterior surface of the thorax and abdomen twisted round towards the hollow of the sacrum. The perforator had been passed up behind the symphysis pubis, and had entered the neck of the fœtus near the angle of the lower jaw, and lacerated the parts around; but the point had not passed through the bones of the skull. I turned the body of the child round so as to make the front of the thorax and abdomen look toward the symphysis pubis, and correspond with the face of the child. The fore and middle fingers of the left hand were then carried up along the spine of the child to the occiput, and the point of the perforator being slid along the inside of these, while the body of the child was drawn forward, the head was opened behind the right ear, and the brain began to escape; the point of the crotchet being then introduced through this opening, and fixed on the base of the skull, the head was soon extracted. The child was putrid, and the patient died on the 28th, from extensive in-

flammation of the uterine organs and cellular membrane of the pelvis.

The brim of the pelvis is of an oval form, and measures three inches from the sacrum to the symphysis pubis, and four inches and a half in the transverse diameter. The distance between the tuberosities of the ischia is three inches and a quarter.

The false vertebræ are not completely united by bone, and the ossification of the other bones of the pelvis is imperfect. In this case all the consequences of distortion were produced, though it was merely a small pelvis, and had no apparent connection with softening of the other bones of the body from rickets. The bones of the extremities were not bent, and there was no external appearance from which the actual condition of the pelvis could have been known, before the labour commenced.

CASE CLXX.—On Wednesday evening, the 22d Sept. 1830, I was requested to visit a patient in whom the right arm presented. Labour commenced the preceding evening, with rupture of the membranes and escape of the liquor amnii. Pains followed in the course of the night, but the presentation could not be ascertained till the following morning, when an arm was felt at the os uteri. The midwife attempted to turn the child, but could not succeed. In the course of the day the medical attendant likewise attempted to bring down the lower extremities, but the rigidity of the os uteri prevented the introduction of the hand into the cavity. In the evening I endeavoured to pass my hand, but could not overcome the contraction of the orifice. The right arm, and a large loop of the navel-string, were hanging out of the external parts. 3xv. of blood were drawn from the arm, and fifty drops of laudanum administered. Three hours after, another attempt was made to deliver by turning, but it was unsuccessful likewise from the same cause. Again, in the morning, the bleeding having been repeated to a far greater extent, another effort was made to pass the hand; but this also failing of success, the medical attendant then proceeded to deliver by removing the arm at the shoulder-joint, and eviscerating the child. Nearly three hours were spent in tearing down the thorax, and drawing the trunk and extremities through the pelvis: in effecting this the cervical vertebræ were unfortu-

nately torn, and the head left within the cavity of the uterus. A broad roller was passed firmly around the abdomen, and the left hand immediately introduced into the cavity of the uterus, and the fingers placed in contact with the head. The point of the perforator was carefully conducted along the palm of the hand, and between the fore and middle fingers, to the most dependent part of the head, and a free opening made. The crotchet was then passed up, and introduced through this opening within the skull, and the head extracted with the hand and crotchet. The head was extracted with difficulty, from the rigid state of the cervix uteri.

She died soon after.

The mistake, I think, here committed, was in not waiting much longer to allow the rigidity of the orifice to subside, or to overcome it by more copious blood-letting and larger doses of laudanum. By following this plan, and waiting for 15 or 20 hours longer, it is probable the result of the case would have been more fortunate.

CASE CLXXI.—Saturday, 23d Dec., 1837. I was requested by Dr. H. Davies to see a short deformed woman who had been in labour during the greater part of the preceding day. The left arm presented, and at midnight Dr. Davies had attempted, but unsuccessfully, to deliver by turning the child. At three in the morning, I made several strong efforts to pass my hand into the uterus, and bring down the feet; but the uterus every where embraced the child so firmly that I could not pass the hand either between the symphysis pubis and shoulder, or along the hollow of the sacrum. Dr. Davies made another attempt to deliver at 4 A.M., but it was also unsuccessful. A large opiate was administered, but venesection was not employed, on account of the feeble condition of the woman.

At 11 A.M., another attempt was made to deliver, but the hand could not be introduced into the uterus, and we resolved to remove the arm at the shoulder-joint, perforate the thorax, and bring down the pelvis of the child with the crotchet, or to bring the fœtus, doubled up, through the pelvis of the mother. The arm was dragged down and removed at the shoulder joint, and immediately after the thorax receded almost beyond the reach of the finger, and the orifice of the uteru

contracted, so that it was difficult to fix the crotchet on any part of the child. Another effort was now made to turn, but it was found to be impossible to introduce the hand within the uterus. I then passed up the left hand into the pelvis, and insinuated two fingers within the uterus, and along these conducted the crotchet to the ribs of the child, and fixed its point, as I thought, near the lower part of the thorax, and pulled forcibly down. After much exertion, the thorax being greatly torn, and all the parts in a confused state, when I was engaged in making strong traction the trunk separated from the head and passed through the outlet of the pelvis. The left hand was immediately passed into the uterus, two fingers were introduced into the mouth so as to keep the head steady, and the crotchet was introduced, and its point fixed on some part of the face. Without much difficulty the head was extracted.

She died two days after, and it was found on dissection that the internal and muscular coats of the uterus were lacerated on the anterior part. The peritoneal coat was not ruptured.

Moderate venesection, large opiates, and delaying to deliver till the uterus had ceased to resist the introduction of the hand, had this delay extended even to 24 hours, would probably have been more judicious practice than that which we pursued and considered the best.

CASE CLXXII.—In 1829, I was called to a case in Vere Street, of distortion of the pelvis with presentation of the arm. The labour had commenced the preceding night, but the presentation had not been ascertained till the following morning at 8 o'clock, when a medical practitioner was called to perform the operation of turning. Long and violent, but unsuccessful, efforts were made to bring down the feet. Another accoucheur was then called, but his efforts being equally fruitless, he detached the arm from the shoulder and renewed the attempt to turn the child. At 1 o'clock, both practitioners being completely exhausted, I was requested to see the patient and endeavour to deliver her. The vagina was enormously swollen, the thorax occupied the brim of the pelvis, and on passing up the right hand between this part of the child and

the anterior part of the pelvis, the points of the fingers touched one of the feet, but I could not succeed in passing the hand sufficiently high up to grasp the foot; I succeeded, however, in passing a small pair of craniotomy forceps along the palm of my hand to the foot, and drawing it down into the vagina. The nates and trunk of the child were speedily extracted, but the head would not pass through the brim of the pelvis till it had been perforated behind the ear, and drawn down with the crotchet. The patient died on the second day after delivery from laceration of the orifice and neck of the uterus.

CASE CLXXIII.—On the 13th Dec., 1838, Mr. Marshall, of Greek Street, called me to see a patient who had been in labour about 16 hours with her first child. The nates presented. After the trunk and extremities had been extracted, Mr. Marshall could not succeed in extracting the head of the child. The head was so firmly fixed in the brim of the pelvis that I could not draw it into the cavity. As the child was dead I passed up the perforator and opened the head behind the ear, and readily extracted it with the crotchet.

The patient speedily recovered.

CASE CLXXIV.—On the 13th Jan., 1840, a patient of the St. Marylebone Infirmary, with slight distortion of the pelvis, was in labour, and the face presented and became jammed in the brim. Violent uterine action was allowed to continue for eight hours, when the right labium became enormously distended with blood, and burst on the inner surface, and a great hæmorrhage took place. The discharge of blood was checked by strong pressure with a sponge over the rent, while I was engaged in perforating the head and extracting it with the crotchet.

She recovered perfectly.

Of 110 cases of difficult labour in which I have been compelled to employ the perforator and crotchet, 88 women have recovered, and 22 died. In nine, death took place from inflammation of the uterus; one from inflammation of the mucous membrane of the bladder, caused by long retention of urine before delivery; five from uterine hæmorrhage; five from laceration of the uterus and vagina; one from puerperal convulsions; and one from gangrene and sloughing of the vagina and external parts. In a

very large proportion of these cases of craniotomy, the pelvis was unusually small or distorted. In seven the cause of the difficulty appeared to depend on great rigidity and swelling of the soft parts. The face presented, and the arm descended along with the head into the pelvis, in several of them; in three cases the foetus was affected with hydrocephalus; and in two the pelvis was obstructed by ovarian cysts and tumors. In none of them was it omitted to apply the forceps where there was the slightest chance of extracting the head without lessening it. After examining the details of all these cases, I am perfectly satisfied that in none was the interference premature; and that in several, had the delivery been sooner effected, the fatal consequences which ensued would have been wholly prevented.

THE "GREASE."

To the Editor of the Medical Gazette.

SIR,

I TRUST you will indulge me with a short space in your valuable GAZETTE to enable me to remove some misapprehensions which I perceive are entertained respecting the influence of that disease of the horse, vulgarly called *Grease*. It is not my intention to enter upon matters of controversy, but I think such a simple statement as I subjoin may not be without its use on the present occasion.

Dr. Jenner, when investigating the nature of the variolæ vaccinae, learned from the farriers and farmers, that the disease in the cow was often propagated from the horse, by persons who were engaged in handling diseased horses, and subsequently milking cows. That such an occurrence did sometimes take place was rendered so manifest to his own mind, that he did not scruple to publish it as a well-ascertained truth. This information was unhappily associated with an inaccurate speculation on the one hand, and a mistaken assumption on the other. The latter consisted in believing that the disease propagated from the horse was the *grease*; and the former, in imagining that both human and vaccine variola originated from this source. This speculation was soon abandoned and lost sight of; not so

the assumption that the disease propagated from the horse was the *grease*. The effects of this error have been more or less felt from its first promulgation; and the readers of the *GAZETTE* are aware that they have not yet ceased.

It appears to me, that all the difficulties may now be easily solved. That a disease exists in the horse which, when communicated to man, either by casual or artificial inoculation, does produce an affection in all respects akin to that derived from the cow, is proved by the most direct evidence. It is equally certain that many of the most distinguished veterinary surgeons have, in this country, failed in producing an affection of this kind by direct inoculation with the matter of *grease* from the heels of the horse. How are these opposing statements to be reconciled? Have the different observers been misled, or have they fallen into inaccuracies, which are, unhappily, incidental to all human pursuits? One or other of these opinions must have prevailed until greater light was thrown on the character and nature of variola, whether in man or in the inferior animals.

I trust I may, with all submission, mention the difficulties which I myself encountered while dealing with the subject, in the *Life of Jenner*. Relying on the statements that *the grease* really did afford a protecting influence like that derived from the cow, I was obliged to mention in the first volume (while tracing the history of variola in the inferior animals), that the *grease* was the form which it assumed in the horse. I felt at the time that this was a very inaccurate expression; and the more so because it had been previously shown, that the horse as well as the cow had been liable to some of those pestilential eruptive diseases, which there is great reason to believe were of a variolous character.

I am not ashamed to own, that the word *grease*, which had been in such constant and familiar use, tended to perplex me; and it was not until I met with Dr. Jenner's own remark, quoted in the second volume of his *Life*, that the disease in the horse is of a vesicular character, and not necessarily confined to the heels as the *grease* is, that the whole truth burst upon my mind. It then became apparent that the con-

tradictory statements were perfectly reconcileable; and those who maintained that they had propagated a disease from the horse akin to the cow-pox, and those who maintained that such an affection could not be derived from *the grease*, may have both been perfectly correct; and why? because they were treating of two distinct affections. All direct evidence and all analogy seem to support this view of the subject. I am desirous of laying these facts before your readers, because it has been supposed that I adopted these views in order to prop an ill-supported theory. Now, the very reverse is the fact; for, by employing the word *grease* as I have done, the opinions which I have adopted are necessarily exposed to all the difficulties which would embarrass the question, should it really be proved that it is the *grease*, and not a specific disease of a variolous nature, as I now believe it to be. I expressed that very strongly in the Appendix to the second volume, and on several other occasions. All this may be very immaterial to your readers, and the opinions I have expressed may be proved to be erroneous; but, be this as it may, the remarks I have made will show that I am not so wedded to a theory as to attempt to maintain it by unsound arguments; and that so far from putting forward my views respecting the *variola equina*, in order to support the doctrine of the identity of variola in man and in the inferior animals, those views were not published until many years after that discussion was printed.

In connexion with this subject some of your readers may be interested by the following intelligence which was sometime ago communicated to me by my friend Dr. Morehead, of Bombay. It is extracted from a report on the Topography of Tatta on the Indus, by Dr. Winchester.

"In the province of Lus, along the sea-coast N.W. of Karrackee, of which Belu is the capital, and Souriang the sea-port, the milkers of camels affirm that they have a disease called Photo-shootur. Small-pox in Lus is called Photo; so that Photo-shootur implies the small-pox of the camel, which is an eruption on the udder of that animal, not more violent, and in its pustules similar to that on the udder of the cow. The camels which are thus afflicted

continue to give milk, which is largely drunk by the inhabitants; but both the men and the women who milk them are invariably seized with a pustular disease, similar to that on the camels' udder, on the hands and arms, never extending above the elbows. No one has been known to die from this eruption; and the natives themselves remark that those who have had the Photo-shootur are uniformly exempt from small-pox, which is a disease occasionally endemic in the district."

Supposing this statement to be correct, of which I think we can entertain no doubt, we are assured that there are at least three animals which afford to man an affection protective against small-pox.

I may perhaps be permitted further to remark, that the fact which I have thus stated does very strongly corroborate the opinions which I have so long endeavoured to substantiate, namely, that there is an eruptive disease common to man and some of the inferior animals; and that the names assigned to this disease, in different ages, and in different countries, and its influence on the human constitution, all prove it to be of a variolous character.

Your obedient servant,

JOHN BARON.

Cheltenham, Nov. 12, 1841.

ANALYSES AND NOTICES OF BOOKS.

"L'Auteur se tue à allonger ce que le lecteur se tue à abrégé."—D'ALEMBERT.

Memoire sur l'intervention de la Pression Atmospherique dans le Mécanisme des Exhalations Sereuses. Par le Dr. JULES GUERIN. 8vo. pp. 34. Paris,

Memoir on the Intervention of Atmospheric Pressure in the Mechanism of Serous Exhalations. By Dr. JULES GUERIN.

THE deductions from some anatomical researches and some experiments, detailed in this brief memoir, are as follows:—

"1. The articulations of the skeleton present during the majority of the movements that take place in them, an extemporaneous enlargement of the cavities which they form, or give rise to the formation of new spaces, which do not exist in the same joints in the state of rest. These enlargements of

existing spaces, or developments of new ones, are the results of two sets of circumstances; namely, the changes of the relations of the planes of the articular surfaces, and the tension of the ligamentous and muscular parietes of the articulations, in consequence of the separation of their points of insertion.

"2. All the serous cavities of the human body (those of the pleura, pericardium, peritoneum, spinal and cerebral meninges) present, like the articular cavities, periodical enlargements of the spaces which they circumscribe, the results of the elevation of the parietal layer of the serous membrane by the parts which it lines, and of the depression of the visceral layer, in consequence of the contraction or displacement of the organs which it encloses.

"3. The enlargements of the various serous and articular cavities of the human body realize extemporaneously spaces closed on every side, under the influence of which the balance between the internal and external atmospheric pressures is lost, and the latter becomes excessive; whence there results a rushing of fluids towards the interior of the cavities, and an effort of suction periodically exercised on the surfaces and the orifices directed towards them.

"4. The intervention of the atmospheric pressure, as an active element in the mechanism of serous secretions, which is thus proved by the anatomical arrangement of parts and by direct experiment, is evidenced also by pathological facts. The adhesion which so easily takes place between juxtaposed serous membranes; the diminution or suspension of the secretion of synovia, and at last the anchylosis connected with the more or less complete immobility of the joints; their rigidity under the influence of a diminution of atmospheric pressure on high mountains, and the particular accidents that follow penetrating wounds of all the serous cavities, derive their real explanation from the action of the atmospheric pressure upon the serous secretions, and are so many instances in support of this doctrine."

In this theory, the ingenious editor of the *Gazette Médicale* has overlooked the important fact, that in order to the formation of any vacuum within a cavity, it is necessary not only that it should be hermetically closed (as the

serous cavities certainly are), but that it should possess rigid walls, which they do not. If, therefore, by any circumstance, one portion of a serous cavity be for a time expanded, another part of its walls is at once pressed inwards by the excess of external atmospheric pressure, and there is no need of any pouring out of fluid secretion to fill up the space. It seems, indeed, to be one of the particular purposes in the formation of these cavities, that by making their walls yielding and pliant the occurrence of vacua within them may be prevented. In M. Guérin's experiment of introducing the end of a bent tube containing water into a serous cavity, the essential condition of the cavity was at once altered; it was no longer a closed one, but open to the atmospheric pressure at the other end of the tube: and if, in this case, it was found that in certain motions of the contained organ, or of the joint, the fluid passed from the tube into the cavity, under the influence of atmospheric pressure, nothing was proved but that the fluid was more moveable than the walls of the cavity. Had the cavity not been opened by the introduction of the tube, its walls would in the same movements have collapsed, and prevented the formation of a vacuum for even the most minute interval of time. The pathological facts in question, therefore, still require explanation.

MEDICAL GAZETTE.

Friday, November 26, 1841.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

THE MEDICO-CHIRURGICAL SOCIETY.

THE observations we lately made on the constitution of this Society have called forth from other quarters remarks which are characterized by a virulence altogether unsuited to the subject. We have no desire to be the defenders of any society in the management of which error can be proved to exist: nor have we any personal interest whatever in declaring our belief, both that

the Medico-Chirurgical is better conducted than many societies with a great parade of government, and that it is injurious to medical literature to have a great number of distinct bodies all publishing Transactions. These were the only positions we endeavoured to maintain in the article thus roughly answered: nor are they opposed by any facts whatever; but in a singularly incoherent strain the Medico-Chirurgical Society is accused as if some supposed errors in its management were connected with the unprotected state of the members of the profession, with deficient clinical instruction in the large hospitals, and with others of the stock-evils of partisan question.

Now what amount of good may have been conferred on medical science by the existence of the Medico-Chirurgical Society, we do not pretend to determine; for indeed there is no very obvious way of getting at a measurement of it. Whether the amount be less than that effected by our own respected publishers, the Messrs. Longman (who, by an unwary deviation into justice, have the palm of such high merit conceded to them) is not of much importance; for indeed the benefits of a society like this are so different in kind from those conferred by liberal and enterprising publishers, that they can scarcely come into competition. Though Messrs. Longmans may, as they doubtless do, confer much more advantage both upon themselves and upon the profession, by the publication of the MEDICAL GAZETTE, than by publishing the Transactions of the Medico-Chirurgical Society, yet this is surely no argument against the propriety of maintaining such a society, or against the reasonableness of its mode of management. What the advantages of such societies are we need not now rehearse: it is sufficient to know that there is neither a science, nor scarcely

a minor branch of a science, for the encouragement of which some such association does not exist; and hence, that however difficult of discernment the advantages may be, they are so anxiously sought after, that the very multiplication of societies for obtaining them has become an inconvenience. However true, therefore, it may be, that a widely circulated scientific journal does more good than the publication of a Society's Transactions, still, it must surely be absurd to oppose the voice of universal custom, and to deny that there is much good of another kind which it is in the power of a Society alone to confer upon the common object pursued by its members.

It comes, then, to be asked, whether the Medico-Chirurgical Society does, as far as possible, contribute to the good of our profession? We repeat, we have no desire to defend its errors, if they exist; but, having no interest either in abusing or encouraging it, we must hesitate before we join in a cry against it; and must ask for an enumeration, at least, of its faults. Is there, then, any unfairness in the manner of admitting its members? any personal favour? any patronage? any exclusiveness? Are those of any particular party in medical politics ever excluded on account of their partizanship? Is there, in a word, any one interest dominant in it? Or, if this be not shewn in the general admission of members, perhaps it is evident in the election of officers to govern the affairs of the Society, or in the selection of papers for publication. It is quite possible that faults of this kind may exist: they do in many societies, and we cannot, of our own knowledge, say that they do not exist in that in question; only, not having once heard that its management was unfairly conducted, and knowing that had it been so the report could not have failed to reach us,

we supposed the contrary, and pointed it out as the circumstance in which this Society was far superior to its analogue in France, in which faults of all the kinds that we have enumerated are notoriously rife.

As yet, then, we have no proof of flagrant fault before us. As for the absurdities committed by some of those who take part in the discussions, they are surely not corrigible by rule or statute: happy, indeed, would it be, if such men could be convinced that their speeches are neither so wise nor so eloquent as they imagine them; but faults of this kind are no otherwise the faults of the Society than as they evince a want of judgment in admitting those who were likely to prove such unprofitable associates.

But, in truth, it matters little whether there be faults in the management of the Society or not. It would have gone on long enough, either in the increasing prosperity which we believe it now enjoys, or with decreasing utility towards utter neglect, and been unnoticed, had it not been desirable, through it, to direct an attack upon the managers of higher societies, such as the Colleges of Surgeons and Physicians, and the medical officers of the larger hospitals; for these are the main objects of the virulence of the article we refer to. The way in which the discourse is suddenly turned from the Medico-Chirurgical Society to the Colleges, and thence to the hospitals, and the defects of the clinical instruction, is so abrupt that we could almost have imagined, at the first reading, that two or three different papers had, by some accident, been mixed together. But on looking carefully we found that the bond connecting them is the assertion that the managers or leading members, as they are called, of the Society, the managers of the Colleges, and the medical officers of the hospitals, are all one party; and

that in all their deeds they show the same unpardonable faults.

Now, this meaning would have been much sooner evident, if the assertion had been true. We will not so far imitate our contemporary's confusion as to write of all the subjects at once; but confining our attention at present to the council of the Society, in whose hands the whole management is placed, let us see how many of the twenty-one (unhappy number!—the council of the College of Surgeons has the same) hold office in the large hospitals, or take a share in the government of the Colleges. There are, then, six who are on the medical or surgical staff of the large hospitals (including therein the Middlesex); there are three members of the council of the College of Surgeons; and there are four University-fellows of the College of Physicians. But of these (nine in all), not one, we believe, is of the number of those who are reported to be favourable to exclusiveness in the institutions to which they are severally attached. On the contrary, we are not sure that of the whole council there is one member whose medical politics are not of a liberal stamp: certainly there are among them some of the most ardent and radical of medical reformers: and, on the whole, if it were to be admitted that the appointments were made on political or party grounds, no one could hesitate for a moment to think that the council of this Society had been selected for the purpose of carrying out some eminently liberal design.

What we have said is sufficient to show the unfairness with which our contemporary charges the faults of the Medico-Chirurgical Society upon those who, he says, mismanage our colleges, and disgrace our hospitals. With much more prudence might he have quoted the constitution of the council

of this Society, as an example of the benefit of universal suffrage and vote by ballot; for its members are neither openly nor self-elected, but are chosen by lot from the whole body of the Society. But, in fact, politics have nothing to do with the government of the Society; and, if they had, the assertion that those who have authority elsewhere have the chief management in it, would place our contemporary in a yet more difficult position; for, except on the ground of their real merit, it would be difficult to explain why the same men should be chosen by their brethren to manage the affairs of their societies, by the governors of hospitals to take charge of their patients, and by one another to direct the powers vested in them by charter.

But, although our opponent is so manifestly in error, we still regret that occasion should have arisen to enter upon a controversy on this subject, for we feel sure that scarcely any thing could be more prejudicial to the interests of a scientific society than the making its constitution a question of political interest. When it is thrown as an accusation upon the Medico-Chirurgical Society, that it has never interfered to amend the political state of the members of the medical profession, or to urge hospital surgeons to a more earnest discharge of their duty, surely the purposes for which it was established and chartered are utterly lost sight of. If these be its faults, may it long be guilty of them! He who first introduces into it a question of medical polity, or even one of medical education, will give the first blow to its utility, for the encouragement of medical science, and for the cultivation of that friendly feeling, with which, whatever be their political opinions, all of our profession ought to meet on the common sacred ground of science. Politics and science never yet have flourished on

the same soil : nor is medicine, of which the politics are as fiery and impetuous as the science should be cool and slowly progressive, likely to afford the first exception to this rule.

Here we shall be glad to find the subject of the Medico-Chirurgical Society rest. If there be errors in its management of which we have not heard, there is, it is plain, such a governing body in it, as cannot need the stimulus of public rebuke to urge them to their correction. But, whether there be faults or not, it is certain that neither the blame of their existence, nor the merit of their absence, is due to the councils of our colleges, or the surgeons of our hospitals. Whenever, therefore, either of these last is to be held up to scorn, let it be on shoulders better fitted to bear them than are those of the Medico-Chirurgical Society.

KING'S COLLEGE HOSPITAL.

CASE OF EXTENSIVE ULCERATION OF THE BLADDER :

WITH CLINICAL REMARKS BY DR. BUDD.

MARGARET MARSHALL, æt. 57, native of London, where she has always resided : married thirty-four years, but has had no children.

States, that she was healthy until about last Christmas, when she became affected with pain in the region of the bladder, with frequent desire to pass the urine, but great difficulty in doing so.

These symptoms continued, and on the 30th of June, she was admitted into King's College Hospital. Up to that time she had taken no notice of the characters of her urine, and had never remarked a sediment in it. Had suffered no pain in the loins. Had wasted considerably.

At the time of her admission she complained of frequent desire to pass the urine, and of a burning pain at the orifice of the urethra, and in the left labium, and along the descending branch of the pubis.

The urine was passed in very small quantities at a time. It was acid, slightly albuminous, and threw down a yellowish-white deposit, which had all the characters of pus :

being readily diffusible through the urine ; converted into a glairy mass by liquor potassæ ; and, under the microscope, exhibiting pus-globules.

There was no discharge from the vagina, which, as well as the uterus (which was examined by the speculum), appeared perfectly healthy.

The bladder was examined by the catheter, but there was no evidence of calculus.

She complained of great pain when these examinations were made ; and of great tenderness when the finger, passed into the vagina, was pressed against the bladder. There was considerable irritative fever, with loss of appetite and much thirst ; and she had no sleep at night.

She was ordered sedatives : conium, hyoscyamus. These produced but little relief, and after a time were exchanged for morphia.

The symptoms, however, continued, the emaciation increased, and she died, completely worn out by pain and suffering, on the 8th of October.

During the last two or three weeks, the appetite was quite gone ; the tongue, red and glazed ; the pulse, frequent, and extremely small.

She was continually crying out for morphia, which latterly she took in doses of half a grain every four hours.

During the whole period of her stay in the hospital, she had occasional vomiting, and constipated bowels ; the effect, no doubt, of the large doses of narcotics.

From the time of her admission, to the middle of August, the urine was frequently examined, and always presented the same characters : it was always acid ; coagulating slightly on the addition of nitric acid ; and throwing down a yellowish puriform deposit. It never presented any glairy mucus.

From the middle of August to the middle of September, no observations of the urine were made.

From the 20th of September to her death, the urine was frequently examined, and always found *acid*. During this last period, in addition to the pus, it frequently contained a small quantity of blood.

She complained throughout of agonising pain in the left labium and in the left side of the bladder ; and always lay on her right side, for the sake, she said, of easing it. She had no pain in the right labium ; no pain in the loins.

Post-mortem examination.—The bladder, was found quite denuded of mucous membrane, except in a space about the size of a shilling, on the posterior surface immediately within, and continuous with, the mucous membrane of the urethra ; and in a very small spot surrounding the orifice of the right ureter. The muscular fibres of the bladder, which were thus ex-

posed, offered no trace of ulceration, and presented very nearly their natural appearance. The left half of the bladder was not more diseased than the right, except that the mucous membrane was quite gone about the orifice of the left ureter.

On the small portion of mucous membrane remaining at the surface of the urethra, there might be seen, on close inspection, a few very small whitish points, not unlike tubercles.

The mucous membrane of the urethra very vascular, but not otherwise perceptibly altered. No trace of inflammation of the peritonæum reflected over the bladder.

The bladder was contracted.

Both kidneys rather small. The right kidney and ureter appeared healthy. The mucous membrane of the *left* ureter was very much thickened, and its surface rough and ulcerated, especially in the portion nearest the bladder. Towards the kidney it became more healthy. In the cortical substance of the left kidney, near the centre of its convexity, there were deposited spots, about the size of a pin's head, of a whitish substance, resembling tubercle or concrete pus. At some points this matter was in a fluid state, and could be pressed out on the point of a lancet, like a minute globule of pus. Examined by the microscope, this matter was found to consist of irregular granules, considerably smaller than pus-globules. No trace of inflammation of the capsule of the kidney.

The lungs contained no tubercles, and were perfectly healthy. Heart healthy.

The other abdominal viscera presented nothing worthy of note. Uterus and appendages healthy.

In his remarks on this case, Dr. Budd observed—

It was clearly ascertained during the life-time of the patient, that the pus came from the bladder; and three suppositions might be made as to the source from which the pus was derived:—1, That it was derived from the kidney. 2, That it was derived from the bladder. 3, That it was derived from an abscess communicating with the bladder.

The objections to the first supposition were, that she never had any pain of the loins; and that she never passed gravel in her urine. Extensive abscess of the kidney is almost always the consequence of calculus; and when pus in the urine is derived from this source, the urine frequently contains small portions of gravel.

There was a third objection to this supposition; namely, that the pain she suffered was very much greater than that attending abscess of the kidney.

Dr. Budd reminded the pupils of a case lately in the hospital, presenting the symptoms of abscess of the kidney, where the

patient had passed a considerable quantity of pus in her urine, almost daily for twelve months, with very little pain or suffering: in fact, during all this time she had continued to suckle her child: so that the mere access of pus to the bladder is quite incapable of causing the symptoms of pain and intolerance in that organ, observed in the case of Margaret Marshall.

All those objections were fatal to the first supposition.

The second supposition—that the pus was derived from the bladder—was favoured by the dreadful pain and suffering, and the constant desire to pass the urine, so characteristic of ulcerated bladder; and by the tender state of the bladder, as ascertained by touch. But we considered opposed to it the constant *acidity* of the urine, and the absence of *glairy mucus*.

The third supposition was favoured by the complete absence of mucus in the urine, and by the pain always referred to the left side of the pubis. It was opposed by the agonising pain she suffered; pain very much greater than is usually experienced in cases in which an abscess discharges through the bladder.

During the life-time of the patient we could not decide between the second and third suppositions.

Much of the difficulty was cleared up by the dissection. The absence of mucus was explained by the total destruction of the mucous membrane; the pain in the left labium, by the disease of the left ureter and kidney. The pain, no doubt, was a *sympathetic* pain, analogous to the pain in the testicle from irritation of the ureter in men. In all severe affections of the urinary organs, sympathetic pains are felt in the neighbouring parts.

The acidity of the urine was owing to the short time that the pus and urine remained in contact, in consequence of the frequent desire to make water. Purulent urine is alkaline in those cases only in which the pus and urine remain long together. The pus acts as a ferment, and causes decomposition of urea, rendering the urine ammoniacal: so that the acidity of the urine in this case, taken as evidence of the painful and intolerant state of the bladder, instead of being opposed to the supposition that the disease was seated there (as we considered during the life-time of the patient), was in reality in favour of it.

The acidity of the urine might be inferred from mere observation of the unaltered state of the pus. When purulent matter becomes alkaline, the ammonia of the urine converts the pus into the well-known glairy matter.

What is the real nature of the disease? Did it commence in *catarrh* of the bladder? Dr. Budd was of opinion that it did not.

If it did, what Dr. Prout calls the first stage had passed, and the mucous mem-

brane had become extensively ulcerated, before she was admitted into the hospital. If the mucous membrane had been gone so long, it is remarkable that there was no greater change of the muscular fibres of the bladder.

If the disease had commenced as catarrh of the bladder, the patient's attention would probably have been attracted by the ropy state of the urine.

Again, what is the nature of the disease of the kidney? Was it antecedent to, and the cause of, the disease of the bladder, or consequent on it? If consequent, why were not the right kidney and ureter similarly affected?

The case is very interesting, and one whose pathology is not yet made out. Mr. Coulson, in the second edition of his work on Diseases of the Bladder, describes cases exactly like it: cases in which there was total destruction of the mucous membrane of the bladder, and ulceration or some disease in the left ureter or kidney; the muscular structure of the bladder being nearly healthy.

He says, this destructive ulceration of the bladder is most common in women; and usually attended with disease of the left ureter and kidney.

He gives the detail of five cases, in all of which this complication existed. In four of the cases the urine was *acid*. He makes no mention, in any of the cases, of the presence of much glairy matter. He says—

“The more usual course of this disease is, that ulceration gradually extends to the whole of the mucous membrane, which is destroyed; and then the muscular structure is shown more clearly than any dissection can exhibit it. In the progress of the ulceration, disease commonly manifests itself in one of the kidneys; and, as far as my observation goes, usually in the *left* one.”

Again, he says—

“As the muscular is connected but loosely to the inner membrane of the bladder, the inflammation does not easily pass from one to the other. One of the kidneys is usually found in a state of ulceration, containing pus; the ureter inflamed in its whole course, and ulcerated at its *vesical* extremity.”

One kidney and ureter being alone affected in these cases, shows that their disease does not depend on general constitutional causes, or on any contamination of the fluids. Is it not mechanical? Does it not depend on the patients lying habitually on one side? When the mucous membrane is gone, the valvular structure at the orifice of the ureter is imperfect. In Margaret Marshall, any attempt to lie on the left side produced an aggravation of her sufferings.

It is plain, from the quotations, that Mr. Coulson infers that the disease of the ureters and kidney is consecutive to that of the bladder. The fact that, in Margaret Marshall,

the ureter was most diseased in its vesical extremity, is in favour of this inference; which is further and materially confirmed by the much more advanced degree of disease in the bladder than in the kidney.

Could any thing more have been done for the alleviation of the poor woman's sufferings? Would soothing and protecting injections have been of any avail?

I believe not; and was very averse to try them, from the sensitive state of the urethra, and the dreadful pain which the mere introduction of the catheter occasioned.

SEVERE WOUND OF THE THORAX.

To the Editor of the Medical Gazette.

SIR,

IF you consider the annexed case of sufficient value to insert in your journal, it may prove interesting to some of your numerous readers, and will afford additional evidence of the power of nature in restoring extensive and dangerous lesions of the pleural cavity.

I remain, sir,

Your obedient servant,

G. H. BETTS, M.R.C.S.

Watford, Nov. 20, 1841.

Thomas Wilson, aged 58, a labourer in the employ of S. Vanderplank, Esq., was engaged on the 16th of March in cutting hay. His wife about 11 o'clock took him some refreshment, and in the act of turning round to speak to her he slipped off the part of the stack upon which he was standing, and fell upon the hay-knife, which lay upon the ground-work of the stack. From the peculiar form of the knife, and the manner in which he fell, the point entered his left side between the fifth and sixth ribs, immediately under the axilla, inflicting a wound eight inches in length, and five inches in depth. Upon my arrival, which was in about ten or twelve minutes from the time of the accident, I found him lying on his right side, with his right hand holding his shirt on the wound (which was, of course, thoroughly saturated with blood); his pulse very feeble; respiration difficult—to use his own words his “breath coming only from his throat;” countenance pallid; cold perspiration; and certainly in a most dangerous state. Upon removing his hand from the wound there was a gush of florid frothy blood: the lips of the wound flapping during respiration. Three sutures were introduced. The lips of the wound being brought as accurately as possible together, a piece of lint saturated with blood was applied over it, and he was carefully removed to bed.

A table-spoonful of weak wine and water was allowed, and instructions given to keep

the wound constantly wet with cold water. He was seen about every two or three hours for the first day, and continued comfortable. In the evening the difficulty of breathing had greatly diminished; skin cool; pulse 80, soft, and regular; and the mind quiet. No respiration could be detected on the left side, but the respiration on the right side was natural: no ingress or egress of air through the wound.

It is needless to give the daily details; suffice it to say, that on the 3d a little dryness of skin, slightly furred tongue, headache, and restlessness, indicated the necessity of a gentle saline aperient, which quickly removed all the unpleasant symptoms. On the fourth day the wound had united entirely by the first intention, and the respiratory murmur could be heard in the apex of the lung.

Every thing went on as well as could be wished. In sixteen days he was taken to his own home in a cart, and in three weeks he could walk about as well as ever, excepting a little shortness of breath. About a week from that period he complained of pain in his shoulder, and, from the description he gave, it was considered to be rheumatism (from the application of the cold water probably), and a purgative, a little saline mixture, combined with a sudorific, and a liniment, speedily relieved the symptoms, after which he complained of a "stitch" in his side, which was increased upon pressure and taking a deep inspiration. A little calomel, saline mixture, and a blister, in two days removed all those symptoms, and he was enabled to go to work; has continued so ever since, and is at present employed in thrashing.

A circumstance in the above case has rather surprised me, and for which I am unable to account—the absence of blood or bloody mucous expectoration. Is it not almost, if not invariably the case, that in an incised wound of such a magnitude in the lungs, blood will be expectorated? or is it possible that, in a wound of the above description, the lungs escaped? As there evidently was no extraneous matter in the wound, I did not satisfy my curiosity by probing and examining; but by the appearance of the lips of the wound, and the blood on the knife, it is evident that it entered obliquely. Still I think it impossible that the lungs could escape.

EXTENSIVE EFFUSION IN THORAX.

To the Editor of the Medical Gazette.

SIR,

If you do not think it too presumptuous of me in endeavouring to obtain for this case (which I think to be of rather uncommon

occurrence) a place in your valuable GAZETTE, I shall feel greatly obliged by your inserting it. It is not so much to the history of the malady as to the post-mortem inspection of the body that I would wish your attention to be directed. My own observation was not called to it until the autopsy, but I have endeavoured to collect what I could relating to the case, which I now lay before you. From what I could learn of the man's history previous to the accident, he appears to have been a very dissolute character, frequently exhibiting a well-marked partiality for gin drinking, &c.

I am, sir,

Your obedient servant,

WINTONIENSIS.

Winchester, Nov. 18, 1841.

Henry Smith, æt. 30, was jammed against the wall by a carriage so forcibly, as to cause every suspicion of fracture of the ribs. Although the crepitus could not be distinctly felt, he said the most pain proceeded from his wrist, which was considerably hurt. Upon applying a roller tightly round the chest, his sufferings were so unusually aggravated that it was obliged to be removed. The next day he was bled, and a day or two afterwards he seemed better; but his arm beginning to be inflamed, and becoming most intensely painful, it brought on a species of delirium by some designated "tremens," and presenting, amongst other symptoms, the very characteristic one of being continually possessed with an idea that those around him were going to do him some harm. When he was questioned as to how he felt, he would answer that he was quite well. He became so refractory that three or four men could scarcely keep him in bed, and it was with the greatest difficulty we could prevent him from doing some very serious injury either to himself or those about him. Opium was administered to him, and a pill of calomel and Dover's powder repeated frequently, but by no art or stratagem could he be persuaded of the necessity of taking it. It was therefore thought advisable to try what could be done "*vi et armis*;" but that proved equally unavailing. Leeches were applied to the arm, after which it was kept bathed in cold water, and a blister was applied to the epigastrium; but he died the same night at about eleven o'clock, having dragged through a long and miserable day in a state of wretched suffering, and at times uttering absurd and incoherent sentences, for his brain became—

In its own eddy boiling and o'erwrought—
A whirling gulf of phantasy and flame.

The autopsy of his remains, twelve hours after death, presented the most remarkable instance of effusion into the cavity of the

thorax that I ever saw or heard of. As soon as the slightest perforation was made into it with the point of the knife, fluid instantly escaped, (the body, as is usual, being laid flat on the back), shewing the excessive plenitude of the cavity. Upon measuring it there was found to be nearly a gallon contained only on that side. The right lung did not appear to be at all diseased, but merely in a state of perfect collapse, from a deficiency of space to enable it to expand itself: the pleura shewed no signs of adhesion: the left lung was gorged with blood, and considerably hypertrophied, but no effusion was discovered on that side of the mediastinum: the valvular structure of the heart and arteries presented no appearance of disease: one of the ribs on the right side was fractured. No other appearance presented itself worthy of notice. There must, it is to be presumed, have been extensive disease going on for some time, caused or aggravated by his intemperate habits, and, meeting with this sudden accident, his already debilitated frame was crushed beneath the blow.

THE VASCULARITY OF TUBERCLE.

To the Editor of the Medical Gazette.

SIR,

THE analysis which appeared in your journal on September 24th of a lecture by M. Lugol—a high authority on the subject in question—affords ample confirmation of the observations I published in 1836, on the organization and vascularity of tubercle. It is stated that M. Lugol has, in numerous cases, detected blood-vessels ramifying, not only in the cyst, but in the tubercular matter itself. In my paper on Tubercle, published in the twentieth volume of the Transactions of the Royal Medical and Chirurgical Society of London, I gave an account of seven cases in which great numbers of pulmonary tubercles, of the ordinary kind, presented, under the microscope, red vessels, which ramified and anastomosed through their interior, and were connected at the circumference with the vessels of the lungs; and I mentioned that, in one of these cases, red vessels were also seen in tubercles of the bronchial and mesenteric glands.

I may add, that five months after my paper was laid before the Society, Dr. James Macartney, the distinguished Professor of Anatomy at Trinity College, Dublin*, stated, at the British Association, that he had succeeded in injecting tubercle.

This concurrent testimony of observers,

who appear to be ignorant of one another's observations, will, I trust, be considered by your readers as demonstrative of the fact: and as these vessels are only now and then visible, and cannot be with certainty discriminated without much patient examination with the microscope, they will not be disheartened, if they should not in their first attempts succeed in detecting them.

Another instance in which a texture, long supposed to be unorganized, has now been proved to possess blood-vessels, is furnished by articular cartilage in the adult. Its vessels, being in health very minute, and not destined to transmit red blood, were not easily detected, even after careful attempts at injection; and were, in consequence, positively denied to exist by Cruveilhier, Velpeau, Key, and others. Nevertheless Bichat, Gordon, Brodie, Mayo, and Alison, saw reason confidently to infer that they must be vascular and organized. Bichat noticed that they were liable to be reddened by inflammation; and Sir Benjamin Brodie met with occasional, though rare instances, of vessels containing red blood extending from a diseased bone into the cartilage covering it. At last Mr. Liston has shewn that the injection of articular cartilage, which had been generally maintained to be impossible, from a total absence of vessels, is only difficult, and may with skill be, under favourable circumstances, accomplished.—I am, sir,

Your obedient servant,

P. N. KINGSTON, M.D.

7, Charles Street, Berkeley Square,
Nov. 15, 1841.

THE LAST CENSUS.

THE total population of England, according to the census just completed, is 7,321,875 males; 7,673,633 females—total, 14,995,508: that of Wales, 447,533 males; 463,788 females—total, 911,321: that of Scotland, 1,246,427 males; 1,382,530 females—total, 2,628,957: and that of the Islands of Jersey, Guernsey, Alderney, Sark, Herm, Jethon, and Man, 57,598 males; 66,481 females—total, 124,079. These numbers, including 4,003 males, and 893 females ascertained to have been travelling by railways and canals on the night of June 6, make the grand totals 9,077,436 males; and 9,587,325 females. The population, therefore, of Great Britain amounts to 18,664,761 persons.

The returns include only such part of the army, navy, and merchant seamen, as were at the time of the census within the kingdom on shore.

The increase of the population, as compared with the returns of 1831, is at the rate of 14.5 per cent. for England; 13 per cent. for Wales; for Scotland, 11.1; for the

* See Mr. Carmichael's Essay on Tubercle.

islands in the British Seas, 19.6 : making the increase for the whole of Great Britain 14 per cent., being less than that of the 10 years ending 1831, which was 15 per cent.

In 1811 the increase during the previous 10 years in England, was $14\frac{1}{2}$ per cent. ; in Wales, 13 per cent. ; and in Scotland, 14 per cent. In 1821, the increase for England was $17\frac{1}{2}$ per cent. ; for Wales, 17 per cent. ; and for Scotland, 16 per cent. In 1831 the increase was for England, 16 per cent. ; for Wales, 12 per cent. ; for Scotland, 13 per cent. ; and for the islands in the British Seas, 15.8 per cent.

The number of houses in England, is, inhabited, 2,758,295 ; uninhabited, 162,756 ; building, 25,882. The number in Wales, inhabited, 188,196 ; uninhabited, 10,133 ; building, 1,769. In Scotland, inhabited, 503,357 ; uninhabited, 24,307 ; building, 2,760. In the islands of the British Seas, 19,159 inhabited ; 865 uninhabited ; and 220 building. Grand totals for the whole of Great Britain, 3,464,007 inhabited, 198,061 uninhabited, 30,631 building—altogether 3,682,699 houses.

In 1831 the number of inhabited houses was 2,866,595 ; uninhabited, 133,331 ; building, 27,553 ; total, 3,027,479 houses.

The population of the English counties is respectively as follows :—Bedford, 95,483 ; Berkshire, 145,389 ; Buckinghamshire, 146,529 ; Cambridgeshire, 143,955 ; Cheshire, 334,891 ; Cornwall, 300,938 ; Cumberland, 169,681 ; Derby, 237,170 ; Devonshire, 494,478 ; Dorsetshire, 159,252 ; Durham, 253,910 ; Essex, 317,507 ; Gloucester, 387,019 ; Hereford, 111,211 ; Hertford, 143,341 ; Huntingdonshire, 53,192 ; Kent, 479,155 ; Lancaster, 1,336,854 ; Leicester, 197,003 ; Lincoln, 317,465 ; Middlesex, 1,358,330 ; Monmouth, 98,130 ; Norfolk, 390,054 ; Northampton, 179,336 ; Northumberland, 222,912 ; Nottinghamshire, 225,327 ; Oxfordshire, 152,156 ; Rutlandshire, 19,385 ; Salop, 222,938 ; Somersetshire, 404,200 ; Southampton (Hampshire), 314,280 ; Staffordshire, 410,512 ; Suffolk, 296,317 ; Surrey, 486,334 ; Sussex, 272,340 ; Warwickshire, 336,610 ; Westmoreland, 55,041 ; Wiltshire, 240,156 ; Yorkshire, 1,591,584.

LUNATIC ASYLUMS.

At the first annual meeting of the members of the Association of Medical Officers of Hospitals for the Insane, held, by invitation of the Governors, at the Lunatic Asylum at Nottingham, this 14th day of November, 1841, and subsequent days, present—

Dr. Blake (in the chair), Nottingham Asylum ; Dr. Corsellis, of Wakefield ; Dr. Crommilink, Bruges, Belgium ; Mr. Gaskell,

Lancaster Asylum ; Dr. Hitch, Gloucester ; Dr. Pritchard, Northampton ; Mr. Powell, Nottingham ; Mr. Prosser, Leicester ; Dr. Shute, Gloucester ; Mr. Smith, Lincoln ; Mr. Thurnam, York Retreat ;—the Rev. R. W. Wilson, Thomas Close, Esq., (Governors of the Nottingham Asylum), and Dr. Bowden, Hanwell, visitors—

The minutes of the meeting held at Gloucester having been read,—

It was resolved—That the governors of the institution, at which the Association shall hold its meetings, be invited, by the medical officers thereof, to be present at the discussions.

That in the resolution, No. 3, of the meeting of July 27th, 1841, the expression “Medical Officers attached to Hospitals for the Insane,” be meant to include medical gentlemen attached to *private* as well as *public* asylums.

That gentlemen desirous of becoming members of the Association be proposed by two members, for election by ballot ; and that notice of such proposition be sent by the secretary to each member one month previous to the time of election.

That ballot papers be furnished by the secretary to each member of the Association, which shall be filled up, and either transmitted to the secretary, or deposited with him at the time of meeting.

That, at the election, a majority of two-thirds shall be requisite for the admission of each candidate.

That in the resolution, No. 4, of July 27, the word *official* be added to that of *legal*.

That Dr. Shute be requested to act as treasurer.

That the annual meetings be held on the first Thursday in June of each year.

That Dr. Shute, Dr. Corsellis, Mr. Thurnam, and Dr. Hitch, be a committee to consider the best form of registers and tabular reports, as recommended in the resolution, No. 8, of July 27.

That this Association, as it may think proper, shall select, as honorary members, gentlemen, whether medical or otherwise, who shall have distinguished themselves by the particular interest they have exhibited in the subject of insanity.

That Mr. Samuel Tuke, of York, Mr. Farr, of London, Dr. Bowden, of Hanwell, and Dr. Gislain, of Ghent, be now elected honorary members.

That the annual subscription be one guinea, to be paid in advance at the annual meetings.

That it is desirable that plans be collected by and for the Association, of all hospitals for the insane ; and that such consist, as far as possible, of elevations, ground plans, sections, drains, means of warming and ventilating, &c. &c. ; and that they be accom-

panicked with descriptions of the site, soil, neighbourhood, &c. of the hospital; and that they be reduced to a scale of forty feet to one inch.

That, without pledging themselves to the opinion that mechanical restraint may not be found occasionally useful in the management of the insane, the members now present have the greatest satisfaction in according their approbation of, and in proposing a vote of thanks to, those gentlemen who are now endeavouring to abolish its use in all cases.

That the chairman be requested to express to the Secretary of State the opinion of this meeting, that, for the benefit of the insane poor, the word *dangerous* should be omitted from the 45th section of the Poor Law Amendment Act, when that measure shall be again introduced to the consideration of the honourable members of the House of Commons.

That the warmest thanks of the Association be offered to the Governors and Medical Officers of the Nottingham Asylum, for their kindness in inviting the Association to hold its first annual meeting at that establishment, and for their kind entertainment of its members whilst there.

That the next annual meeting be held at Lancaster.

ANDREW BLAKE, Chairman.

That the thanks of the meeting be given to Dr. Blake, the President of this meeting, for his kindness and attention on this occasion.

EXPERIMENTS

ON THE

CONTAGIOUS PROPERTIES OF GONORRHOEAL & BLENNOPHTHALMIC DISCHARGES.

BY M. DECONDE,
Surgeon in the Belgian Army.

I. THE present is supplementary to a former memoir, in which, in speaking of gonorrhœa, it was proved that the fluid it produces, whatever were its quantity, its age, or the period at which it was taken, always proved contagious, and capable of producing a granular ophthalmia in dogs. I said that, when treated by irritating injections of nitrate of silver, the fluid secreted by the inflamed urethra was modified; that it was no longer contagious to the eyes if collected immediately after the injection; and, lastly, that the fluid did not regain its virulent character, except in those cases in which the injections having been discontinued, the discharge reappeared and persisted. In a work which he has published, M. Baumès has, in some measure, confirmed my assertion; and points out as being sometimes contagious

the blenorrhages which persist after a long time, which are reduced to a very slight oozing, and which the patients name gleet.

The second part of my assertion having attracted the attention of my superior officers, as well for its own sake as for that of the conclusions that might be deduced from it, in regard both to gonorrhœa and to the military ophthalmia, I shall comply with their wish, by relating the experiments that were made on this subject.

1. The matter of gonorrhœal discharge that had existed fifteen days, was taken on the 15th of December, 1839, on the very day on which injection of nitrate of silver had been employed, and it was put on the same day on the healthy palpebral conjunctivæ of a dog. On the 1st of January, 1840, the conjunctivæ had not undergone the least organic modification.

2. Gonorrhœal matter, from a case of 15 days' standing, was taken on the 15th of December, 1839, on the same day on which injections of nitrate of silver had been made use of, and was put on the 10th of February, 1840, on the ocular conjunctivæ of a strong cat. The cat was killed in April, and not a trace of ophthalmia or of granulation could be discerned.

3. On the 8th of June, 1840, some discharge from a gonorrhœa of two months' standing, collected on the 9th of November, 1839, the day after nitrate of silver injections had been made, was placed on the conjunctivæ of a perfectly healthy young cat. The eyelids were examined on the 9th, 10th, 11th, and 12th of June; and the conjunctivæ remained pale, and presented no appearance of granulations.

4. On the 9th of November, 1839, I collected fluid from a gonorrhœa that had lasted a month. The patient had been treated with injections and copaiba, but for the last ten days with nothing but antiphlogistics: the discharge was white, and had no action on litmus paper. On the 18th of July, 1840, we mixed it with a little rain water, and put it on the palpebral conjunctivæ of a young dog whose eyelids were perfectly healthy. On the 23d there were on either side several inflammatory granulations on the conjunctivæ, which were surrounded by a very marked vascular network.

5. On the 4th of January, 1840, I applied on the ocular conjunctivæ of a dog with healthy eyelids some of the discharge from a gonorrhœa of twenty days' standing, and treated with nothing but copaiba internally. On the 8th the conjunctivæ were actively inflamed, and inflammatory granulations were marked on the internal surface of the second eyelid.

I was not contented with making these experiments on animals, but repeated them a great number of times on myself. I put

with complete impunity, both into the interior of my urethra, and on the inner surface of my eyelids, gonorrhœal matter collected on the day on which irritating injections had been made into the patient's urethra. It caused a momentary sensation of slight pricking; but this soon disappeared.

M. Baumès, in the work which I have just mentioned, cites results nearly analogous to my own. It is to be observed, he says, that, when the oozing is limpid, colourless, transparent, more or less ropy, or even sticky, it does not in general possess this contagious property; and this change may be produced by successive cauterizations of the urethra, in the same way as, by cauterising a chancre, we sometimes soon bring its surface to such a state as to discharge only a mucus devoid of all contagious properties. But apart from this distinction of the discharges, according as they are virulent or not (a distinction which I do not admit), this is exactly the view which I have myself taken.

II. I endeavoured also to prove that the liquid chloride of lime, by being mixed with the gonorrhœal and ophthalmic mucus, neutralised their virulence. But it was not enough to know whether the chloride of lime neutralized the contagious property of the matter secreted in the military ophthalmia or in gonorrhœa: it was necessary also to determine whether this neutralization were more than momentary, that is, whether, when the matter was dried and the chlorine disengaged, the former did not again become virulent. The question was of the highest importance, and I made the following experiments to decide it.

6. A soldier had excessively large granulations, with a very abundant purulent secretion. I took the linen with which he wiped off the matter, and which was strongly impregnated with it, and soaked it in pure liquid chloride of lime, so that, however, the matter might still remain on it; and in this state I left it to dry. On eight successive days I moistened small pieces of this linen, and put them in contact with the inner surface of my eyelids, pressing out the liquid which they held; but I felt neither pricking nor pain, and my eyelids remained as healthy as before.

7. The same experiment was made in March, with the discharge of a chronic gonorrhœa that had existed nine weeks, and had not been treated. The results were the same.

8. On the 7th of January, 1841, I mixed some of the ophthalmic matter which I made use of in experiment 14, with equal parts of chloride of lime, and dried the mixture. On the 15th, 17th, 19th, and 21st of March, I put some of it on my eyelids. I felt a little pricking of the conjunctiva at the moment

of introducing the matter, but its influence extended no further.

9. Gonorrhœal matter from an acute virulent vaginitis, which had a greenish colour, and was discharged in large quantities, was collected on the 10th of April, 1841, and immediately mixed with liquid chloride of lime. The mixture was exposed to the air to be dried; and on the morrow there was not the least smell of chlorine to be perceived. On the 18th, and six following days, I moistened small quantities of this matter, and put some drops with a hair-pencil on my palpebral conjunctivæ. After each application I felt a little stiffness and uneasiness about the eyelid; but, with the exception of this, which lasted nearly an hour, I perceived nothing from it.

10. Some discharge from a case of acute purulent ophthalmia, of which the contagious properties had been determined in several of my experiments, was mixed, on the 10th of April, 1841, with a little pure liquid chloride of lime, and dried in the air. On the 11th, and six following days, I moistened small quantities in a little water, and put some of it every day upon the inner surface of my eyelids; but it produced no further result than in the preceding experiments.

Let it not be supposed that I adopted precautions to escape the effects of inoculation; on the contrary, I made the experiments when my eyes were fatigued with reading, and in stormy weather, when there was a good deal of dust, in which I exposed myself for several hours after the inoculation.

From the preceding facts I think we may conclude that the chloride of lime did not prevent the virulent action of the contagious fluids with which I experimented, only by its presence, or only for an instant, but by a new combination taking place between it and the mucus—a combination which is not destroyed, even when the mixture does not emit any sensible quantity of chlorine. And these, I think, are facts not without importance to organic chemistry.

III. From facts communicated to me by one of my colleagues, Dr. Detrooz, I was led to think that lotions composed of a mixture of one ounce of chloride of lime, and one drachm of oxide of iron diluted with a little water, would prevent the development of syphilis if used immediately after an impure connection: but I shall only record the experiments which I made myself, and which relate especially to the ophthalmia in the army.

11. On several occasions, I dropped between the eyelids of a healthy dog, and afterwards into my own, some ophthalmic or some gonorrhœal matter. Every time that this was *immediately* followed by dropping in some liquid chloride of lime, injury was prevented. It was not the same when the

inoculation was preceded for an instant by the dropping in of the chloride. In this case, it would seem that the irritation produced by the chlorine on the conjunctiva rendered it, for an instant, inaccessible to the action of the contagious matter.

IV. But it was no longer the same when the chlorine was not dropped in immediately after the contagious matter. If there were an interval of several minutes, the chlorine had no neutralizing or preservative influence (notwithstanding the modification which its stimulus determined in the conjunctiva,) and the inoculation produced its full effects. These conclusions are drawn from the following experiments.

12. On the 21st of April, I put on the palpebral conjunctiva of a dog some virulent ophthalmic matter taken from the patient mentioned in Exp. 6, and two minutes after some drops of liquid chloride of lime were poured between the lids: the dog seemed to suffer neither pain nor uneasiness, for he directly after jumped and played about. His eyelids afterwards remained perfectly healthy.

13. On the 21st of April, I put some gonorrhœal matter from an acute case of but four days' standing on the eyelids of a dog: two minutes after, I let fall between them some drops of liquid chloride of lime; and twice more on the same day repeated this. On the 27th no affection of the conjunctivæ had been produced.

14. On the 20th of April, 1841, at eight in the morning, I put on my left palpebral conjunctiva some ophthalmic matter recently taken from the soldier already mentioned, and two minutes after applied a few drops of chloride of lime: I felt a little uneasiness and pain for a few seconds, and then all recovered. On the 25th, the same experiment was repeated with the same results.

These experiments demonstrate, that ophthalmic matter and gonorrhœal matter do not act on the eyes, or on the eyelids, as an irritant, for in that case there should have been irritation produced on contact, which did not occur. Joined to the following, they demonstrate, that the virulent matter, to be able to determine its peculiar effects, requires to have penetrated the mucous membrane of the eyelids, just as the venereal virus requires, in order to the manifestation of its action, to penetrate the mucous membrane of the penis.

15 and 16. First, on the morning of the 25th of April, I placed on the conjunctival palpebræ of a healthy dog, some gonorrhœal fluid similar to that used in Exp. 13: four minutes after I put on the same parts some drops of liquid chloride of lime. 2nd, An instant after, I made the same experiment on myself: on the morrow, the dog had slightly inflammatory granulations; and for myself, I have been since that time subject to an almost constant pricking of the eyelids,

with a sensation as if of foreign bodies under them, the results of the development of small miliary granulations discernible on inspection.

From these facts it follows:—

1st, That chlorine and the chlorurets are certain disinfectants for the gonorrhœal and ophthalmic contagions; and that they are to be preferred to all others, without excepting even the nitric disinfectant of Carmichael Smith, to which I have hitherto given the preference.

2nd. That to preserve soldiers free from ophthalmic infection it is not enough to use frequent chlorine lotions, but the very atmosphere through which transmission takes place should be chlorinated, that is, should have chlorine suspended in it; a purpose which may be accomplished by using daily fumigations according to the plan of Guyton-Morveau.

3d. That the medical attendant, whenever he cauterizes the eyelids of those suffering from ophthalmia, or from granulations, should always dip his fingers in chlorine to prevent the carrying of virulent matter from one eye to another, or from one person to another; for I have proved elsewhere, that though an individual with granulations is, as it were, inured to the presence of the matter secreted by his own eyes, he is not always so to that of the matter secreted by the eyes of others. The same recommendation must be given to those who handle parts affected with gonorrhœa. — *L'Examineur Medicafe*, Oct. 24.

[The author's deductions have reference chiefly to the ophthalmia which has now so long raged in the Belgian army: they may be taken however, *mutatis mutandis*, for gonorrhœa; and if his experiments be true, and truly reported, none, perhaps, are, in their relation to venereal disease, fraught with so much importance.]

ON

ECCHYMOSIS OF THE EYE AND OF THE EYELIDS,

AS A MEANS OF DIAGNOSIS IN WOUNDS OF THE HEAD.

BY M. MASLIEURAT-LAGEMARD.

THE author commences by observing, that there enters into the structure of the eyelids a moderately resisting aponeurotic layer, which is inserted, by its outer border, to the whole circumference of the rim of the orbit, and which, by its inner border, is intimately connected with the tarsal cartilages, of which it seems indeed as if it were a continuation. This layer forms an actual partition, separating the intra-orbital and sub-conjunctival cellular tissue from that of the eyelids, which is continuous with that under the occipito-

frontal aponeurosis. It is important also to bear in mind that the skin of the scalp is united to the occipito-frontalis muscle by means of a dense compact tissue, which does not easily permit blood to infiltrate into its fine areolæ; while that which is interposed between the same muscle and the periosteum has quite opposite characters, being, in fact, areolar, lamellated, and extensible, and offering an exact identity, both in its structure and its uses, with that of the eyelids with which it is continuous, and like which it is easily penetrated by all the fluids with which it is in contact. This being established one may at once foretell the rest of the author's work, for the facts in it afford the most complete confirmation of the theory.

As the cellular tissue comprised between the skin and the occipito-frontal aponeurosis is dense and compact, every time that blood, in consequence of a shock, is effused into it, it infiltrates with difficulty, and forms those circumscribed tumors (bosses) which sometimes, by the breaking of the clots which they contain under the pressure of the fingers, have given rise to the notion that fracture existed.

If the contusion has been deeper, if vessels have been ruptured below the occipito-frontal aponeurosis, the blood, being no more retained by a dense cellular tissue, flows towards the most dependent parts, and, according to the situation of the wound, and the position of the patient, sometimes reaches the subcutaneous cellular tissue of the upper, or even of the lower eyelid, by the ready communication which there is at the angles of the eye, or sometimes goes backwards towards the neck. In this latter case, however, the ecchymosis appears less quickly than in the eyelids, because the skin is much more dense in the neck than in them.

These infiltrations cannot take place when there is a wound which gives free passage to the blood; but they may even in large wounds, on account of the means employed to arrest the hæmorrhage.

The author says that, in cases of wounds, we may predict whether or no there will be an ecchymosis; and that, for this end, it is sufficient to determine whether the occipito-frontalis aponeurosis be intact, in which case a probe introduced into the bottom of the wound partakes of its movements, while, notwithstanding the contractions of the occipito-frontalis muscle, it will remain immoveable if it rests on the pericranium.

A subcutaneous palpebral ecchymosis, then, in which the conjunctiva does not participate, is not commonly a dangerous symptom; but when the ecchymosis appears first on the ocular conjunctiva, and only subsequently extends to the eyelids, there is much reason to fear that there is a fracture of the base of the skull extending to the

orbit. Dupuytren and Velpeau have said that, in these fractures, the ecchymosis begins at the lower eyelids, because the blood at once reaches the dependent parts through the loose laminated cellular tissue of the orbit. M. Maslieurat does not deny the correctness of this remark, though he has sometimes seen the infiltration commence at the upper eyelid; but, however this may be, the conjunctival ecchymosis always appears first, and sometimes even appears alone, when the blood is effused in but small quantity.

Sometimes, without fracture of the skull, there is ecchymosis at once of the ocular conjunctiva and of the eyelids; this is when the globe of the eye has received a direct blow from the fist, or any thing else that is small and round. This may be a useful fact in legal medicine; for when the region of the eye is struck by a flat body, as in a fall on the pavement, for example, the eye being protected by the projection of the orbital bones, the ecchymosis affects only the eyelids—*Archives Générales de la Médecine*, and *L'Examineur Médicale*.

ABSENCE OF THE NASAL DUCT, AND ITS ARTIFICIAL FOR- MATION.

BY M. BÉRARD.

A MAN, twenty-one years of age, was admitted into the hospital Necker on account of congenital fistula lachrymalis. This fistula discharged a limpid transparent fluid, and caused continual epiphora. On pressing on the angle of the eye in the morning a muco-purulent liquid flowed from the fistulous orifice and from the puncta. The nostril of the same side was habitually dry; stimulating powders, such as snuff, becoming dry without exciting the secretion of the pituitary membrane. A stylet introduced into the fistulous orifice in the direction of the nasal duct would not pass, nor was it possible to penetrate its nasal orifice. No doubt could exist, therefore, of its congenital absence; and M. Bérard made an artificial nasal duct, by piercing the os unguis after the manner of Woolhouse.

The inferior border of the internal portion of the tendon of the orbicularis being laid bare by incision, M. Bérard directed a trocar downwards, backwards, and inwards, perforating the internal wall of the orbit. The trocar was immediately replaced by a silver canula about half an inch long, enlarged at its two extremities; and on closing the mouth and nostrils of the patient, the air passed through the canula, showing that it was well placed. Three days after the operation the small wound had cicatrized; no bad symptoms followed. In two months, the patient having neglected the directions of the

Surgeon, returned with epiphora, when M. Bérard changed the canula, and in two months the epiphora had completely disappeared, and the patient was quite well in February last. — *Bull. Gén. de Thér.* and *Brit. and For. Med. Rev.*

GLANDERS COMMUNICATED BY A PATIENT TO HIS ATTENDANT.

A PATIENT was recently admitted at the hospital Necker, labouring under glanders. M. Rocher, one of the medical assistants, was much interested in the case, and paid much attention to it. After the death of the patient he conducted the autopsy, and held in his hands some of the parts, examining them at leisure. On the following night he was seized with shivering, and pain in various parts of his body: by the fifth day tumors were formed in the thigh and shoulder, the former of which suppurated. In three days more another similar tumor formed in the right foot. By the 14th day the lining membrane of the nostrils had become inflamed, with purulent discharge, and pustules formed on the head. He died on the 16th day. A horse was inoculated with some of the matter, and died of the disease. M. Rocher, so far as it could be ascertained, had no scratch or wound about his hands, by which he could have been inoculated, and is supposed to have taken the disease by imbibition, or by miasmatic infection.

TESTIMONIAL TO SIR B. BRODIE.

To the Editor of the Medical Gazette.

SIR,

IN answer to your correspondent's inquiry of last week, with regard to a medal for Sir Benjamin Brodie, I beg to inform you that the committee entrusted the execution of the die to Mr. Wyon (of the Mint) on Nov. 26th, 1840. It is not yet finished. When it shall have been completed it is intended to present a gold medal to Sir Benjamin Brodie, and each subscriber will receive a bronze one.—I am, sir,

Your obedient servant,

CHARLES HAWKINS, Hon. Sec.
The Albany Court Yard,
Nov. 26, 1841.

DR. PAYNE AND DR. CARPENTER.

[We have been requested by Dr. Forbes to give insertion to the following paragraph].
Dr. Martyn Payne, of New York, in a pamphlet recently published by him, and extensively circulated (gratuitously), both in this country and America, having accused Dr. Wm. Carpenter, of Bristol, of plagiarism from Dr. Channing, in a review of John Hunter, published some years since in the British and Foreign Medical Review, I feel

it due to Dr. Carpenter to state thus publicly, and in the most unequivocal terms, that Dr. Carpenter did *not* write the review in question.

JOHN FORBES.

London, Nov. 20, 1841.

A TABLE OF MORTALITY FOR THE METROPOLIS,

Shewing the number of deaths from all causes registered in the week ending Saturday, Nov. 13, 1841.

Small Pox	4
Measles	38
Scarlatina	16
Hooping Cough	42
Croup	9
Thrush	5
Diarrhœa	4
Dysentery	1
Cholera	1
Influenza.....	0
Typhus	23
Erysipelas	11
Syphilis	0
Hydrophobia.....	1
Diseases of the Brain, Nerves, and Senses ..	127
Diseases of the Lungs, and other Organs of Respiration.....	236
Diseases of the Heart and Blood-vessels	20
Diseases of the Stomach, Liver, and other Organs of Digestion	64
Diseases of the Kidneys, &c.....	1
Childbed	9
Ovarian Dropsy	0
Disease of Uterus, &c.	2
Rheumatism	1
Diseases of Joints, &c.	2
Ulcer	0
Fistula	1
Diseases of Skin, &c.	0
Diseases of Uncertain Seat	116
Old Age or Natural Decay.....	58
Deaths by Violence, Privation, or Intemperance	22
Causes not specified	0
Deaths from all Causes	814

METEOROLOGICAL JOURNAL.

November.	THERMOMETER.	BAROMETER.
Wednesday 17	from 15 to 34	29.58 to 29.44
Thursday . 18	30 37	29.23 29.55
Friday . . 19	25 45	29.42 29.22
Saturday . 20	27 49	29.30 29.24
Sunday . . 21	39 54	29.32 29.25
Monday . . 22	51 55	29.14 29.32
Tuesday . 23	30 44	29.56 29.65

Wind, W. and S.E. on the 17th; N.E. on the 18th; S.E. and S.W. on the 19th; S.W. on the 20th; S. on the 21st; S.W. on the 22d and morning of the 23d; N.E. on the afternoon and evening of the 23d.
On the 17th, morning clear; foggy from about half-past 11 till about half-past 12 P.M.; evening overcast. The 18th, morning cloudy, with snow and sleet; otherwise clear. The 19th, evening clear, otherwise overcast; raining frequently during the morning. The 20th, morning foggy, afternoon cloudy; raining very heavily between 1 and 3 P.M.; clear at 4 and 5 P.M.; evening overcast. The 21st, general overcast; raining frequently during the day; wind boisterous at times. The 22d, noon clear, otherwise cloudy; raining frequently and heavily during the day. The 23d, morning clear, otherwise overcast.
Rain fallen, .965 of an inch.

WILSON & OGILVY, 57, Skinner Street, London.

THE LONDON MEDICAL GAZETTE,

BEING A
WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

FRIDAY, DECEMBER 3, 1841.

CLINICAL LECTURES

BY DR. CLENDINNING,

Physician to the St. Marylebone Infirmary.

LECTURE III. DELIVERED NOV. 22, 1841.

Emphysema of the Lungs. Renal Dropsy.

IN my last lecture I spoke at some length (in my remarks on two cases of tubercular pulmonary disease) on the uncertain nature of phthisis as an object of curative medicine, and stated that its treatment was variable to an indefinite extent, and was virtually symptomatic and expectant in principle, and palliative for the most part in practice. One reason of this, just referred to, I then pointed out as applicable to the case of phthisis, and at the same time to that of every other intractable disease. Another, not particularly alluded to on that occasion, was the variously complicated nature of phthisis. From 13 to 14 hundred observations post-mortem made within a few years in this house, it appears that phthisis is amongst those diseases that are most rarely met with in a simple form, or uncomplicated with organic mischief other than tuberculation of the lungs. In most instances we meet with evidence (distinct post-mortem, though often latent during life) of disease in the mucous membrane of the throat, chest, and abdomen; of the bronchial and mesenteric glands; of the bronchial ramifications and parenchyma of the lungs; of the heart, which I find in a majority of cases more or less hypertrophied; of the liver, which is enlarged generally, and often otherwise altered; and often of the kidneys, and other organs. Very generally also the pleura is found to have suffered from adhesive inflammation to a greater or less extent. Now of those allied morbid actions or complications of pulmonary tuberculation, the cases related in the latter half of my last lecture were examples of some only, and especially

of those of the serous membranes of the chest, and mucous membranes of the chest and abdomen.

The case that I am now about to detail is an instance of another complication, not above mentioned, but not very rarely met in cases of phthisis occurring in advanced life, viz. dropsy. It also exemplifies a complication of tubercular disease of the lungs, which is less common happily than many others, but which, when it occurs, aggravates enormously the sufferings of the patient, and renders abortive very often the best directed efforts of the physician to give even the temporary relief. I allude to extensive lobular emphysema of the lungs. In this case, I have no doubt, the greater part of the patient's distress from dyspnoea may primarily be referred to functional incapacity of the organ, resulting from permanent distension of the lobules in the middle and lower lobes, and a consequent non-respirable and functionally inert state of the mass of the lungs.

Emphysema pulm. c. tuberc. et hydropse.

CASE I.—J. B., carpenter, 53 years of age, middle-sized, spare, high-shouldered, and narrow-chested, admitted Nov. 2, 1841, labouring under cough, and with swelling of the legs, and difficulty of breathing. This man stated, that for twenty years and upwards he had been a sober man in his habits, and that until the last two years he had enjoyed good health. About six months before his admission he had some spitting of blood without apparently any concomitant symptoms of true inflammation of the lungs. He has had constant dyspnoea for many weeks: he has a troublesome short cough without much expectoration; his pulse is full and strong, and about 100; his urine is scanty and high coloured; his tongue and bowels are nearly normal; he has considerable anasarca about and above the ankles; and there is sufficient reason to believe that, in the abdomen, at least a moderate effusion of serum has taken place; but the state of

his respiration renders a minute examination by the physical method, if not impracticable at least inexpedient. His difficulty of breathing prevents his lying down, as he cannot sleep or remain for any time in the recumbent posture. His person is spare if not wasted. On examining his chest and abdomen, as well as I could by percussion and other physical means, the following were noted:—The subclavian regions are both depressed, and nearly equally so; neither region yields a normally clear resonance on percussion, nor is either sufficiently elevated and expanded in inspiration: the superior scapular are likewise dull on percussion. Bronchial respiration predominates about the upper part of the chest, and coarse moist murmurs are heard very extensively. Over the whole of the lower pulmonary lobes a preternatural clearness was noticed, with short abrupt inspiratory efforts, and longer and more audible expirations. The abdomen is nearly motionless anteriorly in respiration; while the shoulders rise and fall regularly with the inhalation and exhalation respectively of the air in breathing. The abdomen answers pretty well apparently on percussion, except the very lowest parts in the hypogastric and iliac regions, where there seems to be some defect of the normal resonance.

For these symptoms the resident physician ordered, Nov. 2d,—

Mist. Æther Comp. Mist. Antim. aa. 3vi.;
Træ. Lobelia Inflat. 3ss. ter quotidie.
Emplast. Cantharid. inter Scap. Pulv.
Jalap et Calomel, i. stat.

3d.—On the day following, when I first prescribed for him, I found him something easier than on his admission, and apparently relieved by the remedies ordered for him. The dyspnoea, however, was still urgent, amounting to orthopnoea; the urine was very scanty; the pulse was full, firm, and resisting; his head likewise continued to ache. He had been freely purged by the jalap and calomel, and the cough was somewhat relieved by the blister. But the symptoms previously stated seemed to call for blood-letting, and I ordered venesection to eight ounces, and instead of the former mixture prescribed—

Mist. Juniper Comp. 3iss.; Træ. Scillæ,
℥xv.; Acetat. Potass. ℥i. 4ta q. q.
horâ.

I saw him again between 7 and 8 the same evening, when I found him much relieved apparently since the bleeding; able to sleep lying down; feeling himself more comfortable, and having his pulse softer and slower. The blood extracted had no distinct buff, but had a massive clot which was very firm.

4th.—Dr. Boyd at his morning visit, finding the serous effusions still undiminished, and the dyspnoea again marked, while the

urine continued scanty notwithstanding the diuretics, ordered—

Elaterii, gr. $\frac{1}{4}$. statim.

5th.—On the 5th, when I next saw him, he expressed himself as feeling easier, but he had had two indifferent nights owing to dyspnoea; he reported his urine free, and that he had been immediately purged by the elaterium; the oedema was nearly or altogether gone. With a view to secure sleep, if possible, I ordered him—

Mist. Æther Comp. 3iss.; Liq. Morph.
Bimecon. 3ss. horâ somni.

6th.—Dyspnoea again troublesome; pulse stronger, full, and near 100; slept well; bowels confined yesterday and this day; some oedema observed again; makes no more water than when first admitted; tongue clean nearly; head aches: there are clear signs of some ascites. Under these circumstances I was induced to hope for a second mitigation of the dyspnoea and other symptoms from a moderate venesection, to which the volume and power of his pulse seemed quite equal. Ordered—

Venesectio ad 3viij. statim.

And on account of the advancing serous effusions I added to the bleeding elaterium in divided doses, with a view to avoid hypercatharsis.

Sumat. Elaterii, gr. $\frac{1}{12}$. bis terve quotidie
pro ut opus sit.

7th.—Again a bad night reported owing to dyspnoea; pulse hard as at first; bowels not acted on. Ordered to continue the elaterium until purging supervene, and to lose some blood by cupping on the sternum.

8th.—No material relief; pulse still hard and full; blood extracted coagulated strongly with ample clot. Ordered—

Hirudines sex epigastr.

10th.—Last night dyspnoea increased considerably; dropsical symptoms seem stationary; for two or three days has had, the nurse reports, at intervals slight wandering, which amounts to gentle delirium now occasionally; his colour is now become somewhat dark in the hands and lips; his feet are rather cool; pulse compressible, but not small nor very weak; urine reported pretty copious; bowels open; resonance over the lower lobes still excessive. A fatal result, in all probability, rapidly approaching was now prognosticated; and after this, stimulants in moderate quantities, viz. æther mixture and gin, only were employed; and he sank early in the morning of the 12th. His friends objected to post-mortem examination, which was accordingly not made.

Diagnosis.—First as to the diagnosis. Now in this respect the history of the case is imperfect, as we must always consider the

history of a fatal case to be, if not completed by an account of the post-mortem appearances. Yet, independently of anatomical evidence, there appears to have been enough of light to help us to satisfactory conclusions.

Lungs, phthisis.—With respect to the tuberculation, &c. of the upper lobes of the lungs, which has been assumed in my diagnosis, the following signs sufficiently support that inference. In the first place there had been cough for two years at least, and hæmoptysis some months previously; both circumstances the importance of which as symptoms I have pointed out in my last lecture. These justified the presumption that one lung at least harboured tubercles: then the defects of shape and resonance of both subclavian regions, together with their deficient expansion and vesicular penetration by air during inspiration, and the distinctness of the expiratory sounds, rendered it quite certain for every practical purpose that tubercular mischief existed in both upper lobes.

Emphysema.—With respect to the emphysema diagnosticated in both lower lobes, the evidence was quite as conclusive as that adduced to prove the phthisical state of the upper lobes. In the first place, the unusual resonance of the posterior and inferior parts of the chest, on percussion, afforded of themselves the strongest presumption of the existence of emphysema pulmonum; then this first impression was fortified by several circumstances. And, in the first place, by a dyspnœa habitual for months, if not a year, before admission. According to my observation, constant and habitual dyspnœa, without dropsy or inflammation in the chest, extending over many consecutive months, and occurring in a male advanced in years, (as happened in this patient), may safely and surely be attributed to organic disease and dilatation of the air-passages of the lungs: and I know of nothing in the experience of others that contravenes the position just stated.

Then, secondly, the mechanism of his respiration differed from the healthy standard in a way such as I have met with only in persons in whose remains, if they died under my care, unequivocal emphysema existed in the lungs; for the inspiration was abrupt and quick, and something like sobbing, rather than the gradual expansion of the chest of easy healthy inspiration; while the expiration was prolonged, gradual and slow, instead of comparatively short and rapid. So that the actual proportions in duration between the acts of inspiration and expiration were the reverse of those of the normal state, nearly. Then, thirdly, the short inspiration, though effected with unusual effort, was accompanied by but little vesicular murmur, and by less rather, in those parts of the lower lobes where the resonance on percussion was clearest, than in

other parts. And, fourthly, during inspiration there was little, if any, of the usual protrusion of the epigastric and umbilical regions; while during expiration the usual subsidence of those parts of the abdomen was wanting, in great part, if not altogether. Now each of these three latter observations point clearly to emphysema. For the comparative suddenness and shortness in duration of the inspiratory effort, and the deficient vesicular penetration and breathing murmur, both admit of easy explanation on the supposition only of some actual or virtual diminution of the quantity of respirable lung; in other words, of emphysema in such a case as the present. Then the absence of the normal respiratory motions of the abdominal parietes in such a case implies in like manner emphysema of the lower lobes, owing to which the central part of the diaphragm is, I conceive, in such cases, habitually depressed, so that the muscle has its range of action much abridged, and the protrusion of the liver and abdominal parietes, that necessarily attends its contractions, become slight, and sometimes almost imperceptible.

Another feature of his respiration worthy of notice was this. I stated above in commencing the case that the subject was high-shouldered and narrow-chested. Now this shape of the chest, when taken in connexion with the chronic dyspnœa, was nearly pathognomonic of emphysema, according to my experience. Several hundred cases of emphysema have come under my observation in this house, variously complicated, and accompanied in many cases by bronchitis alone; but in others complicated also with acute affections of the chest, as pleurisy, pneumonia, pericarditis; or with chronic complaints, as tuberculation, morbus cordis, aortic aneurism; and, in the great majority of instances of the disease in its well-marked forms, there has been a striking elevation of the shoulders in inspiration, with an abnormally acute angle at the junction of the neck and shoulder, at all times.

Other viscera.—With respect to the heart and kidneys, both which organs might excite reasonable suspicion, I had no evidence of grave disease in either. The impulse and sounds of the heart presented nothing remarkable. With respect to the kidney, I think it possible that organic change had occurred in it; yet he had not passed bloody or beer-coloured urine; nor was that fluid (which, owing at first to accident and its scantiness, I was prevented from testing by heat and acid) remarkable in colour or smell, except in being, the nurse remarked, high coloured, as in fever. He was free likewise from œdema of the face and upper extremities, which is, I think, a character of simple dropsies of obstruction rather than of inflammatory or renal dropsies. On the whole, I think,

the kidneys were probably normal, and am disposed to refer the dropsy to the lungs.

Of the existence, then, of phthisis, universal bronchitis, and very extensive emphysema, there can be no reasonable doubt in this case; and the evidence of serous effusion not in the legs only, but in the abdomen, and possibly, also, (to such an extent as the expanded state of the lower lobes of the lungs would permit) in the chest, is equally clear.

Prognosis.—In this case there was from the beginning but a discouraging prospect of cure. His age, his habitual dyspnœa and old cough, his state of extenuation and debility, the commonly unfavourable result of dropsy in broken subjects advanced in years, the existence of extensive emphysema of the lungs, the season and weather; all these circumstances portended evil; and against those there was little to rely on as counterweight. The only decidedly favourable feature in the case was the volume and power of the arterial pulse, which suggested the hope that much of the dyspnœa might prove dependent on conditions which we might be able to control more or less by means of bleeding, purging, &c. I mean on inflammations, or congestions in the lungs, kidneys, &c. The means alluded to were tried fully in the case—allowance being made for his age, the long standing of his ill health, and the state of his powers—but without any other result apparently than postponing for a day or two the fatal result, by temporarily relieving pulmonary, renal, and probably cerebral sub-inflammations or congestions. With respect to the remedies used in this case, it is unnecessary to notice them farther. My principal reason for bringing this case before you is to illustrate, by a well-marked case, that distressing disease, emphysema of the lungs, as to its semeiology, with which it is important that you should be well acquainted. With respect to the treatment of emphysema, I shall have hereafter ample means of illustrating it by cases more suitable for the purpose, of which I shall not neglect to avail myself.

Renal Dropsy.

The following is a second example of dropical disorder. In the case just related the effusion most probably had its origin in the irrespirable or impermeable condition of the bulk of the lungs. In that which I am about to relate the effusion had a very different origin, seeming to depend principally or exclusively on a morbid state of the blood, and a peculiar degeneration of the kidneys.

CASE II. — J. R., ætat. 74, admitted August the 9th, 1841, with cough, swelling of the limbs, &c.: has been nearly all his life in domestic service in families of distinction. For many years has been subject to gout and rheumatism. About two years and three quarters since he had a long and ar-

duous attendance, requiring much bodily labour and permitting very little sleep, on a gentleman since dead, during which his health gave way. He was admitted under my care very soon after with general dropsy, from which he was relieved, principally by Elaterium, and discharged after a month or six weeks. A few months after his discharge he was re-admitted with symptoms similar to those of his former attack, brought on, he stated, by exposure to cold. He was then under my care for two or three months. During this illness he had, amongst other symptoms, a violent attack of dysenteric diarrhœa, which lasted about a fortnight. Very soon after the commencement of the dysentery, during which his evacuations contained large quantities of blood, his appearance was very much that of a patient in the collapse of cholera, viz. eyes sunken, and surrounded with a dark areola; extreme parts of a lead if not blue colour, and very cold; pulse almost imperceptible; extreme prostration of strength; voice hoarse and peculiar, &c. From these symptoms he gradually rallied, so as to be out of immediate danger in a fortnight under the use principally of alum in large doses (ʒss. 2da. 4ta. 3tia. q. q. h.) with opium, and a very free use of alcoholic and ætherial stimulants. This second illness ended in the course of last May. In the course of last August he had a relapse of œdema of the face, ascites, &c. which has lasted to the present time, when the hydropic diathesis seems about to give way, and become once more dormant.

When admitted this third time he had some cough and difficulty of breathing. There was effusion into the abdomen and scrotum; his face was puffy, and his urine scanty, and highly albuminous; his pulse was strong, full, and slow: he had no pain, and was not remarkably thirsty. Being above 70, and having been all his life well fed, and rather free than otherwise as to strong drink, he was put on a restricted rather than a low diet, viz. three ounces of roast meat, and the following diuretic mixture was ordered:—

Mist. Juniper. Comp. ʒiss.; Træ. Scillæ, ℥xv.; Acetat. Potass. ʒi. 4ta q. q. h.

11th.—No material change has yet occurred; the renal secretion, the pulse, the swellings, &c. continue very nearly as in last report. Ordered, venesection ad ʒviii. as a measure likely to relieve dyspnœa, relax the kidneys, and prove his power of bearing up under active treatment, and thus elicit information of importance to the after treatment.

12th.—Pulse softer considerably, and still slow; feels more comfortable; has less difficulty in his breathing; makes a good deal more water, which still is highly albuminous. The blood drawn was found, at

the next visit, to have coagulated very firmly, and have a large clot and little serum, but no buff, although it had flowed freely.

In consequence of the relief experienced, and improvement obtained in his symptoms very soon after the bleeding, no change in his medicine or diet was made for the ensuing four weeks.

Sept. 10.—Continues to experience relief in his breathing, and increase of his urine, since the end of the second week of last month; but there is still some ascites, as shewn by the dulness of sound on percussion of the abdomen in various positions. *Ex. gr.* in the sitting posture, there is a præternatural dulness in the hypogastric region, which disappears nearly when the patient lies on his back, and reappears partially when he lies on one side; viz., on the side on which he rests, and which is consequently lowest. In consequence of the effusion, though diminished even in the abdomen, and wholly gone from the extremities and scrotum, seeming to resist the diuretic plan alone, and seeing that the bowels were then, and had been for weeks, in a perfectly normal state, recourse was now had to the Elaterium in addition to the diuretics. Ordered in the form of pills, *Elaterii gr. ½ 6ta. q. q. h.* Under the operation of this double plan, the effusion seemed to give way; copious watery stools and much urine resulted from the medicines; his appetite or digestion was not materially interfered with by the Elaterium, and no mischievous irritation of the bowels occurred to require a suspension of it. He was unable, however, to take his pills regularly, on account of their activity, but used them more or less frequently according to the amount and frequency of the evacuations they occasioned.

Under these means he passed the month ending Oct. 11; by which time the Elaterium had begun to lose some of its effect from habituation, and the dose was subsequently doubled—

St. Elaterii gr. ½ ter quaterve quotidie.

The double dose was found next visit (after Oct. 11) to produce no more inconvenience than had half the quantity a month earlier. On careful examination, there appeared to be some effusion now in the abdomen—also a little in the scrotum; his cough not quite gone, but dry as before.

Oct. 25.—Complains to-day of oppression and tightness of the chest, and difficulty of breathing, with somewhat troublesome short dry cough; he has no fever.

Infricetur Ungt. Argenti Nitratis. Sterno more solito.

Next visit his breathing was found much relieved, and his cough likewise: the other remedies (Eliaterium and diuretic draughts) were continued.

Oct. 29.—Urine now yields no coagulum

either to heat or nitric acid; has little odour when cold; chest continues relieved by the ointment.

Nov. 5.—There is now no appreciable œdema or effusion; pulse normal; urine pretty free; appetite good; he takes but one pill daily.

15th.—Has taken for some weeks a pill nearly every day, or about six in the week, with regularity; omitting it as often as more than three stools were produced in one day.

On the 10th ult., the silver ointment had been again rubbed on his sternum, on account of cough, &c., with the same relief as on former occasions; there is no sign of dropsy now, and he seems in comfortable health. As far as I can judge, he is now convalescing from the present attack; and after a short course of tonics, will not improbably, if the season continue moderate, ere long be enabled to leave my wards in his usual health.

Diagnosis.—Under this head I have little to add to what I have said by anticipation in the course of the history. That dropsy existed was obvious at first sight; and that the dropsy depended on humoral and renal disease rather than on any affection of the liver, heart, or lungs, was a conclusion which we arrived at with sufficient evidence for every practical purpose, by a process of reasoning very nearly the reverse of that by which an opposite diagnosis was established in our former case. For neither in the past history or present signs or symptoms did we, in this case, find any satisfactory indication of structural lesion in the chest or liver; while a combination of circumstances above noted, pointed clearly to the conclusion that the blood was abnormally fibrinous and the kidneys granular.

Cause of cough, &c.—The slight dyspnoea, cough, and tightness of chest, on account of which partly the venesection was ordered, and to relieve which was the sole object of the lunar caustic frictions, were, no doubt, effects of bronchitis. I think it is not common to meet with albuminous dropsy unaccompanied by some cough, &c.: indeed, so usual is this connexion, that it has been held that amongst the causes of general dropsy bronchitis is one of the most frequent. We find, for example, in the excellent work of Dr. Hastings on Bronchitis, a variety of dropsy described, whose organic cause the author considers to be, as I recollect, chronic inflammation of the bronchial ramifications, &c. Of the reality of this pathological connexion pointed out by Dr. Hastings there can be no doubt as a matter of fact, but at the present moment a different explanation of it is required. The important discovery of Dr. Bright was announced, I think, many years subsequent to the publication of Dr. Hastings. The connexion of albuminous urine and dropsy, with renal de-

generation, discovered by Dr. Bright, and which has been found a key-stone to bind together in one arch of doctrine so many facts previously ascertained, but still lying detached and comparatively unfruitful, leads us inevitably to the conclusion, that in dropsies, such as that under consideration, the affection of the air passages is probably but part of a more general morbid tendency or condition, extending, amongst other parts, to all the mucous membranes more or less, and shewing itself in each locality by sub-inflammatory disturbances, expressed by signs appropriate to the organs and tissues affected. In the kidneys, by albuminous and even sanguinolent secretions; in the bowels, by diarrhoea, &c.; in the lungs, by catarrh, &c.

Diathesis morbi.—Under the head of diagnosis only one observation further remains. Albuminous urine with dropsy, may, like most other diseases, be accompanied by very different diatheses, or constitutional conditions. For the disease may, in the male, according to its stage or the character of its subject, &c., be, in its bearings on the use of remedies, either of a sthenic or inflammatory type, or of an asthenic or low congestive type; and I must draw your attention to this distinction, which, though habitual, and almost involuntary, with the experienced practitioner, and of the first importance in practice, is sometimes, and I imagine very often, insufficiently impressed on the minds of students. Yet it is of more consequence than any one of the topics usually discussed under the head of diagnosis. An accurate knowledge of the anatomy and physiology of special morbid actions and states is, for present uses, often of much less value to the physician than correct general impressions as to the powers of endurance of the human frame under disease; and as to the precautionary rules that limit the application of energetic remedies in grave affections. It may be said, no doubt, that the indications that we should be guided by, and the agencies fitted to fulfil those indications, are (under like circumstances as to bodily power and condition) to be determined mainly by the nature of the morbid actions constituting the disease. But with like circumstances of visceral mischief, or other specific morbid conditions, the most various and opposite states of constitutional susceptibility and power are daily met in combination—so that, practically speaking, our mode of treatment depends partly only on the disease, and partly on the subject. Now these constitutional conditions and specific morbid actions, which together constituted the diathesis of the disease, were easily judged to be rather of the sthenic or inflammatory kind in the case under consideration; and on the following grounds:—

1. The previous experience I had of the individual, as above stated, in former at-

tacks. 2. The actual state of the pulse; viz. slow, full, firm to hardness. 3. The cough and tightness complained of in the chest. 4. The favourable state of nutrition—and the event justifies the diagnosis in this respect.

Treatment.—The treatment of dropsical affections, such as that just described, is now, with most well-informed physicians, I believe, governed by two leading principles.

1. The first indication is the removal of the prominent symptom of such diseases, viz., serous effusion. To the presence of water in the cavities in preternatural quantities is popularly ascribed all the inconvenience, and is really due much of the mischief, of the dropsical state.
2. The second great indication is the removal of the humoral and glandular morbid conditions, on which we believe the dropsy in such cases to depend. There are, of course, various minor and incidental indications in these, as in all other grave diseases; such as correcting defective biliary secretions; securing sleep; relieving local distress by topical remedies, &c.; when any of such matters require attention. But the great ends to be had in view are, as already stated, 1. the stimulation of the absorbents of the serous cavities, and of the excreting vessels of one or more of those emunctories that give vent to the watery elements of the blood; and 2. the correction of the fibrinous state of the blood and congested condition of the viscera, but especially of the kidneys. Those two indications are, in a theoretical point of view, very different, but in their practical effectuation they closely correspond and nearly coincide. Both include amongst their means a limited diet and increased evacuations. The tendency of the agencies required for the accomplishment of either indication is therefore substantially, though in different degrees, one and the same. When happily applied, they alike, though not equally, relieve oppression, diminish serous plethora, and correct sanguification and excretion; and when unsuccessfully administered, they tend alike to extenuation and exhaustion. The means employed in the preceding case for the accomplishment of those two leading indications, may, for the reasons just assigned, be considered together.

Remedies.—They were diuretics, bleeding from the arm, elaterium, with restricted diet. The diuretics employed were amongst the most successful in our Pharmacopœia, viz., juniper infusion, with nitrous æther squill, tincture, and acetate of potass. Finding, after 48 hours' use of diuretics with regulated diet, that no change of the renal secretion had been obtained, and that the pulse continued hard and full, I ordered half-a-pound of blood to be taken from the arm, and the diuretics to be continued.

After this improvement was soon observed in the pulse, general feelings, and quantity of urine, but the albuminous condition continued. A month elapsed under this plan, during which he continued better; but he had still some effusion in the abdomen, and albumen in the urine: I then added Elaterium to his diuretics. Under this medication he continued for nearly a second month with advantage, but the ascites and albuminuria had not wholly disappeared at the end of that period. Increase of the Elaterium had now become needful (from $\frac{1}{12}$ to $\frac{1}{8}$ of a grain twice or thrice daily). Under this last modification of the treatment he still continues, with this difference, that he has for some time taken not quite one pill ($\frac{1}{8}$ gr. elat.) per diem, instead of two or three as at first: with the single pill he has about three evacuations and no more daily, and urine, he says, in sufficient quantity; and for more than a month no albumen has been detected.

Remarks.—Now unquestionably the principal remedy in this case has been the Elaterium. The bleeding was beneficial, and the diuretics had some effect; but the removal of the serum from the abdomen, and albumen from the urine, may fairly be attributed to the hydragogue principally. The mode of administering the elaterium adopted is that which has been in use with me for some years. By exhibiting the medicine in minute doses at intervals through the day, we can generally procure discharges of aqueous matters, by stool, as copious as we can require; and very commonly the kidneys participate in the unusual activity of the bowels, and large evacuations of urine are likewise obtained. When the Elaterium agrees well, we may, I think, confidently reckon on clearing away the serous accumulations in a moderate time by its means; and in a large proportion of cases (I should say a large majority) of general dropsy, the stomach and bowels can bear it well enough. By the persevering use of the drug in small doses, with or without correctives as hyoscyamus, &c. habit soon comes to our aid to reconcile the stomach to it, either completely, or at least so far that it does not derange materially the digestion; and a constant flux is maintained, which soon exhausts the serous effusions. One rule I generally observe in the use of elaterium, and I attach considerable importance to it, viz. to secure sleep, by opium, if necessary. So that between each day of purgation, &c. shall be interposed a night of sufficient, and, if necessary, artificially induced comfort and refreshment. With this view the elaterium is begun early, and continued at short intervals until purging supervene, when it is suspended for that day to be resumed next morning. The use of opium at night has considerable effect in

procuring tolerance for the drug in cases in which it could not otherwise be conveniently employed. For this case, however, opium was not required. His rest was not injuriously disturbed, owing apparently to the operation of the Elaterium being over usually each day before bed-time. Other auxiliaries to the hydragogue plan are the use of a diet as sustaining as the pulse and other symptoms may be found to admit, and clothing as warm as the patient can conveniently wear, with woollen clothing next the skin. These were both employed in this case with their usual good effects. Before concluding let me remark, that in this, as in each of my former lectures, I have in one or two points intentionally rather transgressed the limits of clinical medicine; and my object in doing so has been to put you at once in possession of certain pathological and therapeutical generalizations suggested or confirmed by my own experience, by which the treatment of the cases has been much influenced, and which, to some extent, may serve you as keys to my methods and routine of practice, and render unnecessary discussions on those topics in future lectures.

SYPHILIS.

SUPPLEMENTARY MATTER TO MR. MAYO'S
LECTURES ON THIS SUBJECT*,

Published in the Med. Gazette, Nov. 1839.

IN my former lectures on syphilis M. Ricord's method of inoculation was spoken of as particularly valuable for the light it throws upon certain pathological questions. It has served to confirm the opinions, that the syphilitic virus is not the same with that of gonorrhœa; and that there is but one syphilitic poison, which, under different circumstances, originates—sores unattended with induration—indurated ulcers corresponding with Hunter's description of chancre,—and the ragged spreading ulcers distinguished by name of phagedenic.

I. But the propriety of introducing this method into general use in practice, as a supplementary means of diagnosis, admits of further discussion.

Its adoption is evidently not to be recommended in the numerous cases in which the history and character of the ulcer leave no doubt that it is chancre.

Neither is it to be recommended in the various cases, to the treatment of which mercury is not applicable.

But many cases occur which present a doubtful character, in which a surgeon of

* From Mr. Mayo's present course of Surgical Lectures, Nov. 1841.

experience cannot decide at once whether the sore is siphilitic or not, but would ask time to watch its progress. In these cases the test of inoculation is of great use.

Several objections indeed may be urged against it even then.

It may be said, that if the inoculation take, and an artificial chancre is produced, there are produced at the same time a second source and chance of the system becoming affected, and lues following. And facts are wanting to disprove this assertion. But one may reasonably consider it as intrinsically a most improbable one. Surgeons have never entertained the idea that a patient with two primary venereal sores, from the same infection, is in greater danger of lues than a patient with one only.

It may be said, with more speciousness, that the artificial sore can be no test, inasmuch as the matter from any angry sore is likely, when introduced below the skin, to cause the point to fester. But the fact is not so. I have put this to trial in several cases of extremely foul sores, and of sores looking exactly like chancre, when I knew that they were not venereal, and the inoculated points have not festered.

With more justness it may be urged, that, when the inoculation has taken, the artificial chancre, if not vigilantly treated, is liable to become a more troublesome complaint than the original sore. But this is an argument not against the method, but against carelessness in the use of it.

I will now make a few additional observations as to how inoculation is to be performed, how the puncture should be managed, what the results to be expected are, and how the possible evil last adverted to is to be prevented.

Before arming the lancet the suspected sore should not have been wiped, or dressed with any chemical application, for two or three hours at least. The most convenient part for inoculation is the back of the forearm immediately above the wrist.

The point inoculated should be covered with a patch of sticking plaster, and not disturbed for three days.

At the expiration of that period, on examining it, either the punctured point is found to be scarcely distinguishable, having healed, and having no redness about it; or it has ulcerated, and the skin around it is inflamed, and if the epidermis is not broken in raising the sticking plaster, there is seen a small flat vesicle containing lymph or pus, surrounded by an inflammatory zone. Occasionally, but very rarely, the inoculated point does not become inflamed during the first three days, but on the fourth or fifth a pustule suddenly forms.

When the inoculation has taken to this extent, the evidence required is obtained.

The suspected sore is certainly of siphilitic origin. And, if circumstances are not present to contra-indicate the use of mercury, a mercurial course should be immediately commenced.

It is needless to say, that if the appearance of the suspected sore and its history are such as to make it more probable that it is siphilitic, the mercurial course should be commenced at once, as it does not interfere with the production of the artificial sore.

Then comes the consideration how to get rid of the minute artificial sore. For this purpose it is necessary to apply to it well and sufficiently the nitrate of silver, pencilling the sore with a pointed stick of lunar caustic, so that the texture may be destroyed to the depth of half a line. The sore thus treated, at its origin, will certainly heal. If, however, through the imperfect application of the caustic, it does not heal, but, on the separation of the slough, it presents the same appearance as before, caustic must be re-applied.

Another objection to the test of inoculation is, that it may fail when the case is really siphilitic. But the force of this objection is lessened when it is considered that we can determine the circumstances by which failure is liable to be caused. They are the following:—

a. The secretion having been accidentally removed from the surface shortly before inoculation.

b. The character of the sore having been changed by escharotic applications.

c. The character of the sore having been changed by inflammation or sloughing.

d. The nature of the secretion having changed through time. I have seen two cases of indurated chancre, one in a female, the other in a man, in which I obtained no artificial sore by inoculation. But in the first of these secondary symptoms followed; in the second they had already manifested themselves. The common point in both was, that the sores had been there many weeks. Both were treated with mercury.

Thus, M. Ricord's test of inoculation is in most cases not required; and, when resorted to, must be used with great circumspection; for, if its results are affirmative, the artificial sore requires particular vigilance in its management; and, when negative, the failure to produce a second sore can by no means be regarded as entirely decisive of the nature of the first. With these restrictions, however, and taken as a supplementary means of diagnosis in certain doubtful cases, M. Ricord's test has great utility. It enables one, for example, in a case of strong suspicion, at once to begin mercury, by superseding the necessity of preserving the natural appearance of the sore as a guide in the diagnosis. And again in cases where the

suspected sore begins to heal in a few days after the commencement of the treatment, the result obtained from inoculation helps one to decide whether the further use of mercury is necessary.

It would indeed be extremely convenient if we could define chancre to be "an ulcer following suspicious intercourse; indolent; of a circular figure; with or without induration; by inoculation from which a similar sore may be produced; admitting of certain cure by a course of mercury, and then much less likely to be followed by constitutional lues." And this conception of the complaint is worth putting forth for the quantity of truth it holds, inasmuch as it applies to at least four out of five cases of the disease. But it by no means supersedes the necessity of exhausting, by diligent study, all the exceptional cases, from the knowledge of which, in this, as in other subjects in the healing art, it is, that long practice and experience derive their importance.

II. I have mentioned, as one of the grounds for recommending mercurial treatment in chancre, that when there is induration, it often forms the only means of soundly and speedily healing the ulcer. The recommendation may be widened by the fact, that many venereal sores *without induration* are slow to heal unless mercury is used. To mention an instance:—A gentleman had a circular sore, without hardness, on the reflected preputium, near the corona glandis, which followed suspicious intercourse. He was treated for five weeks without mercury; the sore did not heal, nor did its character alter. He then, coming under my care, went through a regular course of mercury and got well. The case has three points of considerable interest. The patient pursued the non-mercurial part of his treatment at Hamburgh, under the direction of Dr. Fricke, who is eminent for his knowledge of syphilis, and his skill and success in conducting the non-mercurial practice. Secondly, The sore did not improve under my hands till the patient was fully under the influence of mercury: and before it became a healthy sore, its condition fluctuated as the patient was more or less mercurialized: this fact was observed by a relative of the patient, a physician in London. Thirdly, the patient concluded his course of mercury in November, 1840; and though it was commenced so late, he is now in perfect health, and has had no threatening of secondary symptoms.

III. There are cases of chancre, by their history, appearance, and *by the test of inoculation, identified as such*, in which mercury is unavailing. A mercurial course continued for five or six weeks fails to touch them. What means are to be resorted to to cure them? I have met with but two of these

cases; they agreed in the following circumstance—there were *many* sores.

In one of the cases referred to, the sores were situated at the extremity of the prepuce, which was naturally long. After a full trial of mercury, and various local applications, fruitlessly, these sores improved suddenly, and healed in a very short space of time upon trying a bread and water poultice.

In the second, a healthy young man, apprentice to a chemist, there were six or seven sores situated at the corona glandis, which, when I first saw them, were inflamed and painful in consequence of a liberal application of lunar caustic. Two had appeared eight days after connexion; five more two days after the first. Inoculation upon the arm with the matter of these sores produced an ulcer, which was immediately healed with the nitrate of silver; and a course of mercury was prescribed. The patient took mercury during seven weeks. The gums were affected, but not to a great degree; and the mercury was once intermitted. On purging supervening the sores did not heal; they seemed sometimes a little better, and looked disposed to granulate; then they fell back. Of many different local applications an opiate wash agreed best with them at this time. Mercury was then discontinued, and five grains of the iodide of potassium in decoction of sarsaparilla taken thrice daily. In a few days the sores began to heal; they were all finally healed in a month, the same medicine being continued. I have before observed, that these clustered sores are often particularly intractable.

IV. I have mentioned, that by far the commonest, and therefore the characteristic, form of venereal sore throat, is the exco-riated; that this variety goes not only with the commonest general form of constitutional lues—that, namely, which is characterised by psoriasis of the skin—but likewise with the lichenous and vesicular and minute pustular eruptions of the skin; and even with ulcerative cutaneous disease.

Excavated lardaceous ulcer of the tonsils, soft palate, or pharynx, is a much rarer form of the disease. It is this form of secondary local affection, and its sloughing variety, which especially justify one in placing siphilitic sore throat as a fourth characteristic form of constitutional lues. Where it is virulent, other constitutional symptoms generally either do not coexist with it, or are much subdued, and of inferior consequence.

The following case exemplifies the feature last adverted to, of siphilitic sore throat; and the connexion of ulcerative secondary disease with common chancre; and the peculiar efficacy of mercurial fumigations in the treatment of the complaint.

A young woman, aged 20, was placed

under my care in the spring of 1839, for primary venereal disease. There were two superficial sores, not indurated, on the inner surface of the external labia: they might have existed several weeks. There was swelling of one inguinal gland. She underwent a five weeks' course of mercury, during which the sores healed, and the inguinal swelling dispersed. Eight or nine months afterwards, when she was living with a gentleman in France, her health became impaired, and two encrusted ulcers formed on the head, and one on the neck; they were not, either of them, bigger than a silver penny. For these she had advice; and they had been better and worse, but were not materially altered, when, on her return in the spring of 1840, I again saw her. She then took five grains of the iodide of potassium twice a-day for three weeks, during which her health improved, and the ulcers healed. A few weeks afterwards, another similar ulcer appeared upon the head; the iodide was resumed, and she got well. Three months after this, in the autumn of 1840, she applied to me with sore throat. There had rapidly formed two considerable ulcers on the back of the pharynx; they were fully in view when she drew in her breath. They were oval, the surface yellow and moderately excavated, the mucous membrane immediately surrounding each being of a bright red. By my advice she used fumigation with half a drachm of cinnabar daily; in four days the ulcers had lost their yellow surface, and the gums and fauces were strongly affected by the mercury. She then took half a pint of compound decoction of sarsaparilla daily for a fortnight; when the ulcers entirely healed. In the spring of 1841, sore throat, of the same character, reappeared, and continued two months. On my return to town in May, she reapplied to me; and upon going through the same treatment, again recovered equally quickly. In the summer, the complaint reappeared in a slighter form, when it yielded to a gargle containing the corrosive sublimate, and five grains of the iodide of potassium taken twice a-day in decoction of bark. A fortnight since ulcers reappeared in the throat, and threatened to advance with virulence; she has had recourse again to mercurial fumigation, and is nearly well.

It was in cases of this description that the old practice of repeated long mercurial courses led to such fatal consequences. In time the disease ceased to be influenced by the remedy, and re-appeared or became virulent again during the continuance of the mercurial course. Mercury was then pushed still further, and the constitution rotted under the joint influence of the disease and the remedy, the bones of the nose and palate becoming carious, and the body covered with

encrusted ulcers. Of the utility of mercury in these most serious cases, under proper restrictions, there can be no doubt, as the preceding instance testifies. But it should be used most cautiously, and desisted from the instant it has produced its effect; and other means then resorted to to correct or subdue the constitutional taint.

V. Psoriasis or lichen frequently coexist; the lichen being secondary in time of appearance and in virulence.

Psoriasis and ulcerated cutaneous disease rarely go together; but, in protracted cases of psoriasis, as I have exemplified, a few of the spots are liable to become tubercular, and to ulcerate. It sometimes, but rarely, happens that psoriasis of the tongue is, at its first appearance, attended with hardening; but in old cases of confirmed lues, the sores upon the tongue are liable to become indurated, and sometimes excavated in addition.

CONTRIBUTIONS

TO THE

CHEMICAL PATHOLOGY OF SOME FORMS OF MORBID DIGESTION.

BY GOLDING BIRD,

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(Continued from page 18.)

(For the London Medical Gazette.)

CASE XVI.—*Pyrosis excited by an elongated and depressed ensiform cartilage.*

PETER HANRITY, æt. 39, has laboured under the present disease for four years. Two years ago this man came under my care at the Finsbury Dispensary with pyrosis, attended with extreme pain at the pit of the stomach. His symptoms at that time differed from those generally observed in the disease in this respect—that the attacks came on immediately after, and often during, meals, if he had partaken freely of food, with a sense of cutting like knives darting through the stomach: this was followed by a sense of burning heat, and gushes of limpid fluid, which appeared to scald his throat, succeeded. The distress at last becomes intolerable, and he is accustomed to excite vomiting by thrusting his finger into the throat. He thus gets rid of the contents of his stomach, and is left free from pain, but exceedingly hungry. These attacks only come on when he has eaten heartily, and can often be avoided by taking

very small quantities of food at a time. He has always been the subject of habitual constipation, often going several days without an evacuation; and then the irritability of the stomach is always most strongly marked. This man's occupation is that of a sawyer, and he is consequently obliged to work several hours a day with his body in a bent position. When I first saw this patient he was extremely emaciated, and so weak as to be compelled to give up his work as a sawyer, and got his living by keeping a fruit-stall in the street. He was generally supposed to be labouring under *schirrus pylorus*; in fact, although I could feel no tumor, I at first treated him on this supposition. He, however, got no better; and after some time, on coming to the dispensary, he told me he had succeeded in relieving himself from sickness. He was in the habit of wearing a thick leathern strap round the abdomen for the purpose of supporting his trousers; and he found that by loosening this he could go a much longer period without being sick. On then carefully examining the abdomen, nothing abnormal was discovered except an exceedingly long and incurved ensiform cartilage. Of the existence of this, it appears he had been for some time aware; and stated that when the gastrodynia was very severe he was accustomed to raise this cartilage forcibly with his hands, and thus generally succeeded in gaining partial relief. Shortly afterwards I lost sight of this patient, but in December, 1839, he was again admitted at the dispensary, evidently much worse. From his statement it appeared that, shortly after I examined him, his attention having, from my questions, been particularly drawn to the long ensiform cartilage, he succeeded in getting the edge of his leathern strap under it, which could readily be done on account of his extreme emaciation; and the result of these attempts was a complete fracture of the cartilage at its juncture with the sternum, so that it could be felt lying comparatively loose at the epigastrium. Partial relief to his symptoms followed this act of violence; ultimately they returned: and at my wish he entered Guy's Hospital, being admitted into the clinical ward under Dr. Bright. He remained there some time, and left considerably relieved, having gained flesh and strength surprisingly.

This man again came under my care on Nov. 25, 1840, looking much thinner than when he left Guy's Hospital, but still better than when I first saw him. He stated that soon after he left the hospital, the gastrodynia and pyrosis returned, and he was compelled to excite vomiting for their relief: the tendency to constipation still remained. He had been living exceedingly low, supporting himself entirely by selling fruit in the street. He then applied on account of the constipation, stating that he was accustomed to his stomach affection, and was tired of medicine, having taken so much for its relief. He stated that he excited vomiting the moment he felt the pain or pyrosis, which generally occurred after dinner, and differed from the attacks two years before in the circumstance of coming on two or three hours after his meal, instead of occurring immediately after, or whilst taking it. On the day I saw him I desired him not to produce artificial vomiting. He dined at 1 o'clock on cold, lean, roast pork, and old bread, merely drinking water. At 3 o'clock pain between the *scrobiculus cordis* and *umbilicus* occurred, and rapidly became so severe that he actually rolled on the floor in agony. At 4 o'clock the pain and burning heat became intolerable, and a gush of burning fluid rushed from the stomach: this occurred repeatedly; and in the course of half an hour he states that he brought up two quarts. I saw about a pint and a half; this, when allowed to stand in a glass vessel, separated into two layers: one of dense mucus, capable of being drawn into a long rope on dipping a stick into it; and the other, which floated on the mucus, was as transparent as water. Some of this was poured off, and the result of the action of reagents is shewn in the table given below.

I may remark, that this patient still labours under this disease; and, what is curious, has gained flesh exceedingly, and, notwithstanding the daily vomiting, looks very well. There can be but little doubt that, although in the first instance the long and incurved ensiform cartilage, and pressure of the leathern belt, in addition to irregular living, were the exciting causes of the affection, yet that persistent irritability of the stomach now exists, which, at some future time, may induce structural disease.

In the following table the effects resulting from the action of reagents on the fluids vomited in the last nine cases are

shewn, so that any difference in chemical properties existing between them may be seen at a glance.

Behaviour of Colourless Gastric Fluids towards Reagents.

Case.	Eliz. Smith. CASE X.	Sarah Wms. CASE XI.	Lucy Barker. CASE XII.	Sophia Barker. CASE XIII.	Mary Clark. CASE XIV.	Car. Peters. CASE XV.	Peter Hanrity CASE XVI.	Miss S— CASE XVII.
When fluid vomited.	Dec. 8th.	Dec. 7th.	Nov. 11th.	Nov. 18th. (morning)	Nov. 18th. (evening)	Dec. 13th.	Nov. 10th.	Nov. 25th.
Ebullition.	Faint opacity.	Opalescence	No change.	No change.	No change.	Opacity.	No change.	Opalescence
Chlorine.	Copious deposit.	Copious deposit.	Copious deposit.	Copious deposit.	Copious deposit.	Copious deposit.	Copious deposit.	Copious deposit.
Nitric acid.	No change.	Slightest opacity.	No change.	No change.	No change.	Opacity.	No change.	Opalescence
Sol. potass.	No change.	No change.	No change.	No change.	No change.	No change.	No change.	No change.
Sol. alum.	No change.	No change.	No change.	Slight opacity.	Slight opacity.	Precipitate.	No change.	No change.
Sol. chlor. tin.	Troubling.	Opacity.	Dense deposit.	Copious deposit.	Copious deposit.	Opacity.	Precipitate.	Dense deposit.
Sol. chlor. iron.	Deep orange hue.	Deep crimson.	Orange yellow.	Orange red.	Faintest yellow.	Faint yellowing.	Pale orange.	Yellowish tint.
Sol. chlor. mercury.	Opacity.	Opacity.	Troubling.	Troubling.	Dense.	Opacity.	Deposit.	Slight troubling.
Nit. lead.	Dense deposit.	Dense deposit.	Dense deposit.	Dense deposit.	Copious precipitate.	Precipitate.	Precipitate.	Slight precipitate.
Nit. silver.	Very dense deposit.	Very dense deposit.	Very dense deposit.	Very dense deposit.	Dense precipitate.	Dense precipitate.	Dense deposit.	Copious precipitate.
Sulph. cop.	No change.	Bluish troubling.	Greenish troubling.	Greenish troubling.	No change.	Green precipitate.	No change.	No change.
Tinct. galls.	Copious troubling.	Copious troubling.	Copious troubling.	Copious troubling.	Copious troubling.	Troubling.	Dense troubling.	Dense troubling.
Litmus.	Faintly acid.	Faintly alkaline.	Faintly acid.	Alkaline.	Alkaline.	Alkaline.	Faintly acid.	Neutral.
Sp. gravity.	1·0080.	1·0121.	1·0062.	1·0135.	1·0128.	1·00917.	1·0110.	1·0209.
Consistence.	Tolerably fluid.	Nearly gelatinous.	Tolerably fluid.	Gelatinous.	Tolerably fluid.	Tolerably fluid.	Tolerably fluid.	Very fluid.
Taste of fluid as stated by the patient.	Intensely sour.	Quite tasteless.	Very acid and bitter.	Like alum.	Like alum.	Extremely sour.	Burning hot	Saltish.

All the specimens of fluids whose behaviour towards reagents is shown in the above table, deposited, by repose, a small quantity of cream-like mucus, and then appeared nearly transparent, the opalescence they previously possessed depending, in general, upon the existence of this finely divided mucus in diffusion. In all, the very copious deposit produced by passing a current of chlorine through the fluid, readily disappeared on the addition of a few drops of liquor potassæ, and in every respect resembled the finely divided albumen separated by this agent from saliva and other fluids belonging to the class of mucous secretions. On warming the fluids, after the addition of the solution of potass, they generally turned yellowish, and let fall a more or less copious deposit of brownish flocculi; but not the slightest evidence of the evolution of ammonia was in any case observed.

Upon looking at the results of the action of the different reagents, we cannot avoid drawing the general induction that the fluids differed rather in the amount than in the character of the effect produced by the reagents employed; and in most instances the discrepancies existing between these effects are explicable on the acid or alkaline state of the fluids, or upon their different specific gravities, and consequently different proportions of solid matter present. The table, moreover, proves another important fact; that no connection whatever exists between the sensations experienced by the patient, on the fluid reaching the mouth, and its chemical relations; and thus the statement I ventured to make, in a previous paper (p. 724), is fully borne out by the results of experiment. I have already alluded to the impossibility of dividing cases of dyspepsia, attended with gushes of colourless fluid from the stomach, into different classes, merely from the acid or alkaline condition they present; for as has been already stated, and I hope the statement is sufficiently corroborated by some of the cases detailed in the last communication, the fluid ejected from the stomach, at different periods of the day, often differs materially in its action on litmus paper. Indeed, I scarcely recollect a case, which I have attentively watched, where the action of the fluid on test-paper did not change

once or twice in the course of twenty-four hours; and I may remark that I have never seen any important relief obtained by treating such cases on purely chemical principles; at least so far as the administration of alkaline remedies during an acid, and of acid medicines during the existence of an alkaline, state of the vomited fluids was concerned.

The extreme frequency of these cases, especially among the ill-fed and ill-clothed poor, is very remarkable, especially during cold weather: during last winter I collected brief notes of between forty and fifty cases, under my own care, at the Finsbury Dispensary alone. It might be asked whether the external cold could act as one among other predisposing causes of this affection, by checking the function of the skin, and thus inducing or increasing an irritable state of the gastric mucous membrane or glands, previously rendered sufficiently prone to assume such a state by unwholesome food, and after the indulgence in spirituous potations. The greater prevalence of pyrosis and the allied affections among females, has, in my own experience, been very remarkable. I am not at all prepared to state that this is the case in the aggregate; but every one is aware that, in public medical charities, affording out-door relief, as among the out-patients of hospitals and dispensaries, the female far exceed, in number, the male patients*; a circumstance in general to be accounted for by the fact of men, from the nature of their occupations, being unable to attend, and wait for relief, at the prescribed hours, and hence seldom appearing, unless their disease becomes sufficiently severe to compel them to give up work altogether. It may, however, be fairly presumed that, *cæteris paribus*, women are more prone to the affections under consideration, from their tendency to constipation, at least among the lower classes, as well as from the gastric irritability so frequently induced by pregnancy, painful menstruation, and leucorrhœa.

* On referring to the admission books I find that, in last January, 82 new patients were admitted under my care at the Finsbury Dispensary: of these 58 were females, and but 24 were males. In another dispensary (Islington), 135 new patients were admitted under my care in September last: of these 93 were females, and 42 males. So that, in these two months, the proportion of male to female patients was about 1 to 2·3.

Occurrence of black vomiting in gastrorrhœa.—I have before stated that the sudden occurrence of a black finely divided matter, in the vomited fluid, is by no means unfrequent in the cases under examination: this has been long known, and has been alluded to by most writers on this subject. When the fluid, which often appears like so much ink, is allowed to stand in a glass vessel, it gradually becomes perfectly colourless and limpid, this change being accompanied by the deposition of a black powder. The nature of this powder puzzled me a good deal: in most cases, by digestion in warm solutions of potass, it dissolved; in warm nitric acid it also slowly disappeared, with an evolution of red fumes, and a deep green fluid resulted, precisely similar to the solution obtained when dried crassamentum of blood is similarly treated. On this account, as well as from the presence of iron in the ashes left after incinerating the black matter, I have regarded it as merely half digested, or modified, colouring matter of blood. I have hence considered the occurrence of this black liquor as indicative of a congested state of the gastric mucous membrane. In one or two cases, in which gastrorrhœa had existed for a long period, in connection with constipation and irritable uterus, I have seen this black fluid vomited previous to the appearance of the catamenia, as though it were an attempt at vicarious menstruation. The circumstance of the matter being black is no argument against its being composed of modified red particles; we see the same thing whenever blood has been exposed to the action of the digestive organs: thus, in many cases of hæmatemesis, a considerable quantity of blood passes the pylorus and appears in the evacuations as a perfectly black pitch-like mass; and in many cases, where considerable portal congestion has existed, as among gin-drinkers, the exudation of blood has occurred insidiously, and the patient has become anæmiated without any obvious cause, until the stools have been examined, when the presence of a perfectly black mass of semi-digested or modified red particles has at once demonstrated the source of the anæmiated and exhausted condition of the patient*.

* The state here alluded to is, in all probability, a much more frequent cause of anæmia

Diagnosis of stomach affections from the characters of the vomited fluid.—The chemical examination of the vomited fluids would, indeed, become of the utmost importance, if we could succeed in identifying their chemical characters with particular states of disease. The results of my investigations, so far as they have gone, unfortunately tend to throw but little light on this matter. I can only hope that this subject will be carefully examined by others, who, I trust, will be more successful in elucidating this difficult question than I have been. My researches all tend to show that, limiting ourselves to those diseases in which the vomited fluids are colourless, no diagnostic distinctions can be drawn from their chemical characters. Their acid or alkaline condition I have shown to be utterly worthless in aiding or directing our treatment; and the accounts of the patients themselves, regarding the taste of the fluids, are not worthy of notice, except so far as they serve to point out the greater or less degree of morbid sensibility possessed by the mucous surfaces over which they pass.

As a general rule, subject however to many exceptions, I have observed that the specific gravity of the fluids is higher in proportion to the increased state of the morbid irritability present. So long as the vomited fluids continue colourless I have never met with indications of the presence of free hydrochloric acid in any appreciable quantity; and, so far as my own experience extends, I have never met with a single instance of organic mischief of the stomach or pylorus in which the vomited fluids were constantly colourless. It is perfectly true that these affections are ushered in, and often preceded, during years, by water-brash; but whenever distinct evidence of organic mischief has appeared, the vomited fluids have always become yellow or brown, and *persistently acid*; often very intensely so. Mere water-brash occasionally alternates with this acid-coloured fluid; but so long as it

than is generally supposed, occurring especially among those who present the general symptoms of derangement of the whole digestive functions, with great irritability, and a remarkably pallid or sallow state of surface. To this important circumstance Dr. Addison drew the attention of the profession, in a communication, made last winter, to the Physical Society of Guy's Hospital.

exists alone, I have never been able to detect any unequivocal signs of structural mischief. To this point I shall have occasion to revert in my next communication.

I confess that I feel considerable anxiety to learn how far the experience of other physicians agrees with my own on this point; for if the statement I have ventured to make, from the results of my own observations, be found to apply universally, it will, at least, be of some service in helping to distinguish between cases of stomach affection in which a question arises as to the presence or absence of organic mischief.

One very remarkable circumstance I have had occasion to observe, viz. that extensive ulcerative disease may exist in the pharynx and œsophagus, extending even to the cardiac orifice of the stomach in a case where pyrosis has been for years present, and yet, the stomach itself remaining unaffected, the vomited fluids retain their colourless appearance even up to the period of the patient's death. The following interesting case will sufficiently corroborate this statement.

CASE XVII.—*Pyrosis, with alteration in the position of the stomach—extensive ulceration of the pharynx and œsophagus—Death.*

Dec. 29, 1840.—I saw, in consultation with my friend Dr. Hopkins, Miss S—æ. 29, a lady highly educated and of remarkably cultivated taste: she had been under the care of Dr. Hopkins occasionally for the last three years, for pyrosis, remarkable chiefly for the very large quantity of fluid ejected from the stomach. To this she had been subject, more or less, and at irregular intervals, during the last six years, at which period the affection insidiously appeared. In general, the vomiting yielded to the remedial measures adopted. For some weeks prior to my seeing her, this lady had laboured under almost constant pyrosis, complete loss of appetite, amounting to horror at the sight of food, and rapid emaciation. The latter was partly accounted for by the existence of tubercular disease in both lungs: she had lost two sisters with phthisis during the last two years.

On my visit, she was lying on her right side, emaciated apparently to the

utmost; surface dry and very harsh to the touch, eyes lustrous, face pale, except at the upper part of the cheeks and nose, which appeared very red; in fact, she presented, in a remarkable manner, the aspect of a diabetic patient. Her expression and conversation was exceedingly cheerful. She had vomited, by repeated gushes, three pints of colourless fluid during the night; this I found to possess a specific gravity of 1.0209, and to be neutral: its behaviour towards re-agents is shown in the last column in the table. Urine rather copious and pale, of very low specific gravity. On examining the abdomen, the aorta was seen beating violently, and the hand so readily grasped the lumbar vertebræ, from the extreme emaciation and empty state of the intestines, as to give rise, at the first moment, to an impression that a tumor had been laid hold of. No tenderness on pressure over the stomach. Tongue red, papillæ prominent, lips vividly red, voice hoarse: she denies all cough or expectoration. She complained of occasional difficulty of breathing, most marked in the attempts made to swallow food: during the last three weeks emaciation has been exceedingly rapid from almost complete starvation, no food of any kind having passed her lips except some jelly made from ivory-shavings, and that in the minutest quantity. The sense of taste has become so morbidly sensible as to prevent her touching any food possessing the slightest flavour; hence she has not been able to take anything except the totally insipid jelly alluded to. Almost constant eructations of a nearly insipid and rather glairy fluid are present. Pulse extremely rapid and threadlike. Whenever an attempt is made to swallow a morsel of solid food, vomiting instantly occurs. The menstruation was regular, but painful, until three months ago, when it ceased. Bowels open scantily about once in five or six days. Before this ailment the patient had been remarkably stout, and enjoyed robust health.

We agreed to try the effect of Oxide of Silver in grain doses, with Ext. Belladonnæ, and to support the powers of life with beef-tea enemata.

Jan. 5, 1841.—I again saw her with Dr. Hopkins: she was much more emaciated than at my former visit,

and now complained of excessive dysphagia, independent of the complete detestation of food: her spirits were remarkably buoyant. The beef-tea enemata had at first returned, but after the addition of a little syrup of poppies they were retained for six or eight hours, and then generally returned mixed with a little fæculent matter. No food had been taken, except a small quantity of ivory jelly, with a little soda water and milk. I saw in a basin between five and six pints of colourless glairy neutral fluid, which she had vomited during the preceding night: a small quantity of arterial colouring matter of blood formed a brown deposit in the basin containing it, and floating in the fluid were some large flocculi resembling false membrane, which had been ejected a few hours before, after an almost strangling fit of vomiting. No pain on pressure about the throat, or on any part of the abdomen. The day preceding my visit she had vomited several large black coagula of blood for the first time.

7th.—Rapidly sinking; gushes of fluid nearly disappeared; no return of hæmorrhage; spirits now completely depressed; and in a short time she expired.

Post-mortem examination, 48 hours after death.—Dr. Hopkins, Dr. Boissragon, and Mr. J. W. Griffith, were present at the examination.

The weather had been intensely cold, and the body, which presented the most perfect specimen of emaciation I had ever seen, had undergone no change.

Chest: Lungs on each side universally adherent to the chest, and studded with tubercles; several small vomicæ existed in each; larynx healthy, except a small circumscribed ulcer between the arytenoid cartilages; heart healthy.—*Abdomen:* The stomach, completely empty, and of enormous size, first presented itself, its position being curiously altered: the lesser curvature, instead of being placed transversely, descended vertically nearly as far as the pubes, where the pyloric end of the stomach turned abruptly upwards to terminate in the duodenum: the greater curvature of the stomach was partly concealed by the spleen, and below this presented a slightly curved margin descending to the lower part of the abdomen. The position of this stomach,

which would have held at least 4 or 5 pints of fluid, was such that if food had been swallowed, it must have fallen directly to the pyloric end, unless grasped by the organ in its descent. On opening the stomach a blush of injection about the pylorus was found, but elsewhere the mucous surface was pale, and presented no disease. The liver was gorged, and reached across the abdomen as far as the spleen, on which it rested; the intestines were pale and empty: no other disease was met with in the other abdominal viscera.

On removing the stomach with the œsophagus and pharynx, and slitting them up from the cardiac extremity, the whole tube was found denuded of epithelium to within half an inch of the stomach, where excessive congestion and some spots of ecchymosis were met with. The muscular coat of the œsophagus was very considerably hypertrophied. The whole length of the tube was studded with ulcers varying in size from a split pea to a four-penny-piece, and penetrating to the muscular coat: some of these ulcers extended into the pharynx; its mucous lining was, however, exceedingly injected. A preparation has been made of the œsophagus, which is placed in the Museum of Guy's Hospital.

In this very interesting case, a question arises as to the necessary connection between the ulceration of the œsophagus and the pyrosis, and how far the latter depended upon, or was produced by, the peculiar position of the stomach. I have met with two other cases of œsophageal disease, attended with pyrosis; in one of these ulceration, and in the other stricture, existed. Shortly after the above case occurred, a patient, who had been the subject of insuperable vomiting, died in Guy's Hospital, and on examining the body the stomach was found very much enlarged, and descending nearly vertically to the ilium. On the other hand, this very state of stomach has been described by M. Louis as "peculiar to phthisis," and out of 96 observations the stomach in nine was twice or thrice its natural volume, and in six its great curve was on a level with the crest of the ilium; and in this state of stomach this distinguished physician has always met with an enlarged liver, overlapping, more or less, the anterior surface of the

organ.* So that it is extremely difficult to decide whether the enlarged stomach was induced by the phthisical disease, or by the vomiting, or how far the ulceration of the œsophagus was connected with, or depended upon, either. One circumstance of great interest, however, is proved by the case under consideration—that the vomited fluid never assumed the physical appearance, or chemical characters, of that ejected in organic mischief of the pylorus, notwithstanding the existence of ulcerative disease to within a fraction of an inch of the stomach. To this I shall have occasion to advert in the next paper.

I may remark, that the lady whose case has formed the subject of these reflections was guilty for many years of tight-lacing: it might be a curious question to inquire how far the alteration in the position of the stomach was owing to this habit; hence inducing morbid irritability of the organ, and consequent pyrosis.

[To be continued.]

SMALL-POX AND COW-POX.

To the Editor of the Medical Gazette.

SIR,

THE doctrine of the identity of the cow-pox and small-pox is now become of such importance in pathology, that I may perhaps be excused in once more addressing a few observations to you concerning it. So long as that doctrine was put forward as an ingenious hypothesis, incapable of direct proof, but calculated to explain to the satisfaction of different persons the preservative powers of vaccination, I was contented to let the matter rest. But when the experiments of Mr. Ceely, and of his indefatigable imitators on the continent and elsewhere, are triumphantly referred to in support of the doctrine, and when its abettors no longer call it an hypothesis, but an acknowledged principle in pathology, it becomes indispensably necessary to sift the matter thoroughly. I shall hardly be accused of putting this too strongly when I state, as consistent with my own knowledge, that it has recently been recommended to some of our highest authorities to *abolish* the term vaccination altogether, and to

M. Louis on Phthisis, Dr. Cowan's edition, p. 43.

instruct the poor that cow-pox and small-pox are *identical disorders*!

If the principle contended for be strictly correct, and amply borne out by the facts, such a recommendation might reasonably at least be taken into consideration; but I distrust the principle, and therefore object to the practical inference proposed to be drawn from it. Let me explain, therefore, somewhat more in detail than I have hitherto thought it necessary to do, the grounds on which I am prepared to reject, *in toto*, the doctrine of an identity between the vaccine and variolous poisons.

The fine-drawn distinctions among the several diseases of the horse's heel, by the help of which some of your correspondents have recently attempted to uphold the doctrine, appear to me to have no direct bearing on the question at issue. The great principle for which Dr. Jenner so strongly contended in 1798, and which exposed him to so much unjust animadversion by several contemporary writers, is fully admitted. There is a disease in the horse's heel which is possessed of an *antivariolous* character—a disease which is communicable to man, and also to the cow. When applied to the human subject directly, the secretion from it produces a vesicle identical with the vaccine vesicle. When applied to the cow it produces an affection of the teat identical with that which is the ordinary parent of human vaccinia. Whether all veterinarians call this disease *grease*, or whether only the illiterate farriers so designate it, matters not. There is such a disease. The following extract of a letter from Dr. De Carro, of Vienna, to Dr. Monro, of Edinburgh, will settle this question effectually.

“Vienna, July 13, 1826.

“The source of our cow-pox is partly British, and partly originating from the *grease* of a horse at Milan, without any intervention of a cow. The effect was so similar in every respect that they were soon mixed; that is to say, that it was impossible to say, after several generations, and in the hands of innumerable practitioners, what was equine and what was vaccine. The whole British settlements in India have been equinated; for the first liquid drop which I sent 25 years ago to India was the second generation of Milanese

equine, or greasy matter, transplanted at Vienna. You know, by frequent reports from the East, that the practice there is on the best footing."

Most truly yours,

J. DE CARRO, M.D.

To Dr. A. Monro, Professor of Anatomy,
Edinburgh.

An antivariolous virus, then, can be procured from the heel of the horse. An antivariolous virus is much more readily procurable from the udder of the cow. From the recent statements of Dr. Baron* it appears that a similar virus is obtainable from the teat of the camel. The antivariolous virus is generated spontaneously in the cow. It can also be excited in the cow artificially, and in three modes. First, by inoculating a healthy cow with the secretions of a diseased one; secondly, by inoculating the cow with the matter of human small-pox; thirdly, by inoculating the cow with the ordinary humanized vaccine virus, no matter how many years may have elapsed since its first assimilation to the human blood.

The principle deducible from these facts appears to me to be this; that morbid matter, whether derived from the horse, from man, or from animals of its own kind, has the power of exciting in the vessels of the cow a specific inflammation, the fluid product of which has an antivariolous property. The following remarkable passage occurs in the writings of Mr. Creaser, of Bath, one of the firmest and most philosophical of the early supporters of the cause of vaccination. Treating of this very subject (the relation between grease and vaccine) so early as January 1801, he writes, "Much physiological consideration arises out of these observations. Not only are the morbid secretions of the same animal capable of conversion and mutual change, but also the same morbid poison applied to different animals seems to produce, not a similar and specific disease, but the disease to which the animal, from constitution and structure, is predisposed."† On this very principle would I explain the experiments of Mr. Ceely. The poison of human variola applied to the cow

produces, not variola, but the disease to which the cow, from constitution and structure, is predisposed; that is, what when transmitted to man we call *vaccine*. That such is the predisposition of the cow, both from organization and constitution, we may be assured, from the very same disorder being in that animal the result of common causes, such as sudden changes of diet, cold, and vicissitudes of atmospheric temperature.

But it may be said, is not the vaccine of man identical with the vaccine of the cow? I answer unhesitatingly not. The vaccine of man has its own peculiar characters. So has that of the cow. Human vaccine occasions no specific febrile disturbance, and consequently throws off no contagious emanations. It is frequently followed by a peculiar lichenous eruption. Before it has, by frequent transmissions, assimilated itself to the human constitution, it does not show its true characters, but frequently occasions ugly eruptions, which, in the early periods of vaccination, were often taken for small-pox, and have even been designated as such, in latter times, by those who ought to have known better. Its areola is circular, and does not commence until the eighth day. It has the power of preserving the human body, to a certain extent, from the assaults of variola. It can only be received once by the human body in a perfect form. It can (after a certain time) be perpetuated from man to man in an uniform state of intensity. It can be produced in man by no combination of common causes. It is producible in man by inoculation alone.

The characters of vaccinia in the cow are in several essential respects different. The vaccine disease in cows can be generated by common causes. It acknowledges in them both a local and a constitutional origin. We have no reason to believe that the passing through this disease gives to the cow immunity from any other disease. Whether it can be received twice by the cow, in a perfect form, I am not aware; nor whether it can be perpetuated from cow to cow in similar states of intensity.

The differences between vaccine and variola are still greater. The variolous vesicle advances with areola from the very first. It cannot be perpetuated

* LONDON MED. GAZETTE of Nov. 26, 1841.

† Creaser's "Evidences of the Utility of Vaccine Inoculation." Bath, 1801, p. 10.

from man to man in similar states of intensity. Its reception into the human frame, by the mode of inoculation, is always attended by more or less fever. When received by the respiration, the febrile disturbance is often excessive, and may even, *per se*, prove fatal. It throws off, however generated, contagious emanations.

When we reflect upon these and other remarkable differences subsisting between cow-pox and small-pox, it requires, I confess, to my mind, a great stretch of imagination to convince oneself that the two diseases are identical, and merely modifications of each other. It seems to me far more natural, far more philosophical, to view them as distinct affections, not allied to, but singularly and most beneficially opposed to, each other. The fact that the vaccine of the cow can be produced by the matter of common variola is singularly corroborative of its occasional origin from some diseased secretions of the horse's heel. To conclude, however, from these facts that the vaccine, equine, and variolous poisons, are identical, it must be shewn (not gratuitously assumed, but satisfactorily proved) that the horse is subject to variola. This, I imagine, will be found no easy matter; at least, if reference be had to a like difficulty experienced in the case of horned cattle; and this is the last point I would urge in opposition to the views of identity supported by Dr. Baron; but it strikes me as being, of itself, very nearly decisive of the question. Dr. Baron has stated, (*Life of Jenner*, vol. i. p. 245), as a strong argument in favour of the theory of identity, "that it is impossible to doubt that some of the inferior animals have been liable to small-pox;" and he quotes, with approbation, Dr. Layard's conjecture that the *pestis bovilla* of 1780 was really small-pox.

Now, if cows are subject to small-pox, how happens it that the inoculation of cows with variolous matter does not produce small-pox? We know that it does not; and we further know, that it produces vaccine: from all which I conclude, not that small-pox and cow-pox are identical, but just the reverse, that they are antagonist affections.—I am, sir,

Your obedient servant,

GEORGE GREGORY, M.D.

31, Weymouth Street, Nov. 27, 1841.

ON DEAFNESS

FROM MORBID CONDITIONS OF THE MUCOUS
MEMBRANE OF THE STOMACH AND
THROAT.

BY JAMES YEARSLEY, Surgeon.

(*For the Medical Gazette.*)

OF late years my attention has been much directed to the state of the mucous membrane in deafness, and the result of my investigations has satisfied me that a very considerable majority of deaf persons have the lining mucous membrane of the ear in a diseased condition. The great agent in producing this morbid state is *cold*; sometimes affecting the internal ear through the medium of the external passage, but more frequently producing its first effects on the throat, and extending to the middle ear through the inner or Eustachian passage. The next prolific source of deafness is chronic derangement of the stomach, which affects the ears in all who have any predisposition to disordered hearing. These causes of aural disease thus displaying themselves in morbid conditions of the mucous membranes, I do not hesitate to declare exceed all others in frequency and importance.

The affection of the mucous membrane of the throat, to which I refer, may occur at all ages, but happens most commonly in the periods of youth and middle age, especially to those whose occupations expose them to inclement weather. It commonly begins with a sense of fulness and increased heat about the fauces, aggravated by taking cold, and constituting in itself a great susceptibility to catarrhal complaints. There is an increased secretion of phlegm from the throat, which is chiefly troublesome in the morning. On looking into the throat it appears congested, and covered with blood-vessels, assuming arborescent shapes, and forming a striking contrast in colour with the pale mucous membrane of the cheeks and palate. When this state has existed some time it extends to the nasal cavities and the guttural passages, producing a sensation of stuffing up both in the nose and ears; of course caused by the increased secretion of mucus and the thickening of the lining membrane. It is in this, the first or inflammatory stage, that deafness makes its appearance; and by the aid of ca-

theterism the progress of the morbid state can be accurately traced. During the first stage the affection of the throat is the most prominent symptom. The membrane investing the mouths of the Eustachian canal may be felt, by the catheter or probe, to be in a tumid state; and the introduction of the catheter gives some pain, owing to the presence of sub-acute inflammation, and is more difficult than at other times, because of the thickened condition of the mucous membrane. The air-douche is, however, the most valuable aid in continuing the investigation, and leading to a correct diagnosis. In the healthy state of the ear the mucous membrane is of very fine organization, secreting a thin mucus, which is either absorbed or carried off by the Eustachian tubes, so as never to accumulate to an injurious extent. The introduction of air into the tympanum, by the air-press and catheter, produces, when listened to by the stethoscope, a continued vesicular murmur, very similar to that heard in the chest in puerile respiration. When the disease of the mucous membrane has reached the ear, and during the stage of increased secretion, the application of the air-douche produces a loud mucous rhonchus or gurgle within the ear, the character of which accurately informs the listener of the comparative fluidity or tenacity of the mucous accumulation. It is in this stage of the disorder that catheterism is of the greatest service; the introduction of air breaking down the thick secretion, and occasioning its discharge from the Eustachian tubes, which, by admitting air freely into the tympanum, restores the hearing. But unless the treatment is persevered in, so as to render the mucous membrane healthy, the secretion accumulates again in a few days, and brings a return of the deafness. The patient, also, when the air is thus obstructed, sometimes obtains a temporary relief by a dislodgement of the mucus, accompanied by a cracking sound or pop, which may take place either in yawning, sneezing, vomiting, blowing the nose violently, or some other sudden respiratory effort. After this state of increased secretion in the tympanum, Eustachian canal, and throat, has continued for some months, or it may be years, it gradually diminishes: the deafness, however, continuing, or even advancing in severity. When the throat of a

patient, under these circumstances, is examined, nothing more than slight thickening or relaxation is perceptible. There is often an evident coldness of the mucous surface, palpable to the patient, and likewise to the touch of the surgeon. The same feeling of coldness, and even insensibility, extends into the ear. If the organ is now examined by the air-douche and stethoscope, a low vesicular murmur is alone heard, of a smoother character than the normal sound, without the least evidence of the presence of the natural moisture. Besides the physical proof of a dry unhealthy state of the inner ear, the mucous membrane of the nasal cavities of the throat are found comparatively dry, and deprived of the nasal secretion. The external meatus also, the lining of which partakes of the nature both of skin and mucous membrane, is in the same arid state, being quite void of the ear-wax, which is either not secreted or its moisture is so rapidly absorbed that it falls out of the ear like dust, and readily pulverizes when rubbed between the fingers. The membrana tympani is seen shining at the bottom of the meatus like a thin lamina of ivory of an opalline colour, instead of the transparency it possessed in the healthy state.

Sometimes tinnitus is present, but quite as often the patient loses this distressing symptom without any amelioration of the deafness. Singing in the ears may be present in any or all of the changes that take place from the commencement to the permanently inactive state of the auditory organ; there is, however, I believe, no certain rule for its existence in these or any other forms of deafness.

In dyspeptic deafness a morbid condition of the throat, gradually affecting the ears, is generated, but of a less active kind than the similar affection from cold. It is surprising how large a proportion of the deaf refer to the stomach as the source of the aural malady, but on a close examination of the early symptoms they almost invariably remember a troublesome condition of the throat as constituting an intermediate train of symptoms between the stomach and aural disorders. Unfortunately these cases rarely apply for assistance till the deafness has become confirmed, but if an opportunity is afforded of watching the progress of

the ear affection, the same order in the symptoms is observed, and the same changes in the mucous membranes occur, as when cold is the exciting cause of disease.

Many writers on the Practice of Medicine have pointed out the stomach as the source of deafness, but none of them ever suspected the frequency of its occurrence. Unfortunately, aurists have directed their attention too exclusively to the ear itself, to trace accurately the chain of causation by which disease approaches the organ of their circumscribed studies. Even the acute Kramer, though often approaching so nearly as to render it surprising that he did not arrive at a clearer comprehension of the subject, never suspected the important part played by the mucous surfaces in the production of deafness: hence many cases are scattered up and down in the pages of his work which might, with perfect propriety, be reduced to the forms of deafness I have been describing.

It is interesting to find how exactly the results of a close study of aural disease accord with the plainest truths of the physiology of hearing. The important offices performed by the proper membranes of the ear are universally allowed. The healthy tension and vibratibility both of the membrana tympani and the inner membranes is absolutely necessary for the acute performance of the auditory function. Now these vibratile membranes, forming as they do the propagators of sound, are all intimately connected with the mucous membranes: the two lesser ones covering in the foramina leading to the labyrinth are invested with it on one side only; but the proper drum may be said to be enveloped by it on both sides; as, besides the inner covering the outer layer, formed of the cuticular lining of the auditory passage, resembles mucous membrane much more nearly than true skin, and disease is readily propagated from the membrane on one side of the drum to that on the other. The mucous layers of the vibrating membranes are necessary both for the protection and preservation in the moist state, which fits them to receive the undulations of sound. It has been shown by direct experiment, that moist animal membranes, arranged after the plan of the ear, are considerably more sensitive to sound than the

same in a dried state; and this is further proved by the fact, that in many cases where there is a dryness of the membrana tympani without any serious disease of other parts, the deafness is relieved for the time by merely moistening the membrane with a little wet cotton wool.

Seeing, then, the important functions performed by this portion of the auditory apparatus, it is clear that deafness must be the result of the loss of their elasticity, and it is equally clear that disease of the investing mucous membranes to the extent that destroys this property, or increases or diminishes the natural secretion, must, in a structure of such delicate organisation as the ear, seriously interfere with the discharge of its functions. Patients thus affected complain of having a film as it were spread over the organs, which is, in reality, the case; the sound seems to them to hang in the ears instead of passing on to impart the natural sensation to the clouded nerve.

[To be continued.]

MEDICAL GAZETTE.

Friday, December 3, 1841.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

MEDICAL REFORM.

COLLEGE OF PHYSICIANS.

AMONG the most venerable of the incorporated bodies of this country is the Royal College of Physicians of London, or rather the "College or Commonalty of the Faculty of Physic in London," which is the title under which they were incorporated by Henry VIII. in 1518. For 323 years has this body now existed, exercising its limited jurisdiction for the benefit of the medical profession, and claiming our respect for other qualities besides its mere antiquity. It has included among its members many of the most learned men which this country has produced. Linacre, Kaye (or Caius), Harvey, Sydenham, Mead, Heberden, and

Pringle, are names enrolled in its annals. Under its sanction several useful volumes have been added to the medical literature of the country. Under its jurisdiction, and mainly owing to the distinguished character of its members, through a long series of years, the profession of a physician has attained to a rank in society in this country superior to that which it enjoys in any civilized country in the world. Kings and princes have found in the members of the College of Physicians of London not only their medical advisers, but their confidential friends and counsellors. Some of the most important events which have influenced the destinies of mankind, more particularly the practice of Inoculation in 1754, and of Vaccination in 1799, were materially aided by the efforts of the College of Physicians of London, as well in their collective as in their individual capacity.

There are those among us to whom all this is as gall and wormwood—who can see nothing that is good in this ancient and time-honoured corporation, but who, if allowed to have their own course, would sweep away this, with other later-formed institutions, to be succeeded by some fanciful creation of their own. We admit unhesitatingly that the time is come when the charter of King Henry VIII. must make way for an improved one. We will go even farther, and say, that the College of Physicians, perceiving their incompetency to meet the altered circumstances of the times, and to superintend effectively the practice of physic throughout England generally, under their existing charters ought long ago to have petitioned for a new one. But delays of this kind, however much to be regretted, offer no substantial reason for utter extinction. The College of Physicians must, we suppose, ere long, be provided with a new charter. Let us consider what are the defects of the

present one; and, further, what kind and extent of privileges it would be desirable to bestow on the College in the charter which it may be presumed will at no distant period be conceded to it.

King Henry VIII., whose conduct to his wives and subjects on too many occasions, exhibits the small value which he attached to human life, yet, in other instances, proved himself in earnest for the physical welfare of his people. He founded the College of Physicians “for the protection of a rude and credulous public from the practice of wicked, avaricious, and ignorant men.” This charter was confirmed by two Acts of Parliament passed during the life-time of Henry VIII. A second charter, with additional privileges, was granted to the College by James I. in 1617, and a third by Charles II. in 1674. On the strength of these charters the College of Physicians was for many years engaged in fierce contentions with the quacks and other somewhat worthier antagonists, contemners of their privileges. In process of time these contests ceased. The last occasion on which the College appeared in court, in support of their authority, being in 1828, when they were defeated, in an action brought against Dr. Harrison for practising without their license.

The amount of actual power possessed by the College, under the existing charters, may be thus briefly stated.

1. It has jurisdiction for the licensing of all physicians “within the city of London, and for seven miles in circuit thereof.” Any one practising as a physician within that tabooed territory, without license from the College, forfeits, upon conviction, five pounds per month.

2. Authority is given to the four censors of the College to visit the shops of apothecaries, chemists and druggists, distillers of oils and spirits,

and preparers of chemical medicines, to survey their drugs, oils, spirits, and medicines; "to govern, correct, and punish them by all lawful ways and means, according as the nature and quality of the offence shall deserve or require." This portion of their duties the College of Physicians still partially exercises but the circumstances of the times evidently preclude the possibility of this work being executed in any other than a nominal way.

3. The third privilege of the College of Physicians is that of superintending national Pharmacopeia.

4. The charter of Charles II. grants to the College the further power of examining and licensing physicians for parts of England beyond the seventh milestone. It provides that in such a case the examination shall take place before a board differently constituted from that which examines for the metropolitan license; and the penalty is five pounds *per mensem* for non-compliance, except they be graduates of Oxford and Cambridge. This class are known as extra-licentiates, and for many years these applicants for the license *extra urbem* were few and far between. Within the last few years, however, they have increased prodigiously, and they now number 107. In 1836, they amounted only to 42. This indicates an increasing desire on the part of provincial physicians to submit themselves to the sway of the College of Physicians, which is sadly at variance with the announcements of ultra reformers. Although the College of Physicians have always professed their anxiety to license for parts *extra urbem*, they have never taken any legal steps to bring provincial physicians under their control; nor is their title to do so established in the same unequivocal manner as their power over the physicians of the metropolis.

It is clear that this is a state of things which cannot last, and which never

ought to have subsisted. The well-being of the Queen's lieges at Leeds is as important to the state as it possibly can be in London—at Richmond, or at Fulham. Nevertheless, at Richmond any one may practise as a physician that chooses, but let him beware if he ventures to date a prescription from Putney. All parties are agreed that the power of licensing *ad practicandam medicinam* should reside somewhere.

Some recent proceedings of the College of Physicians have exhibited a spirit of liberal concession to the demands of the profession which does them honour. Admission to the Fellowship is now open to the graduates of all universities. The library and museum of the College were opened to the licentiates on the 1st of October last. The circular letter to the licentiates, announcing this boon, is now before us. From it we perceive that books cannot be taken home by the licentiates, but may be read by them at the College daily between the hours of 12 and 4. This privilege must be purchased, however, by the payment of an annual subscription of one guinea. We are sorry to notice both these restrictions on a measure of commendable liberality, more especially the last. We feel persuaded, that the unconditional opening of the library and museum of the College to the licentiates, is a privilege which they would never have abused, either by indiscriminate applications, or the careless detention or damaging of the College books. The library of the College is chiefly one of reference, and it is too much to expect that any gentleman should pay a guinea annually for the privilege of consulting once, perhaps, in the year, an old edition of Galen. The new by-law will, therefore, as it now stands, prove a dead letter, which, we cannot help thinking, is, in the present temper of the times, greatly to be deplored.

Against this defect is to be set

the expressed willingness of the College to receive into its body, without examination, all existing physicians in the provinces, and its earnest desire to cooperate with the Government, and with the other medical corporations, in endeavours to arrange, satisfactorily, all the great questions embodied in the general term MEDICAL REFORM. We cannot bring ourselves to doubt that the Government will gladly avail themselves of this enlightened policy, and concede to the College of Physicians a new charter, ratified, we should hope, in due time by Parliament, in which adequate provision will be made for the many real wants of the public at the present time.

1. In the first place, we cannot doubt but that the jurisdiction of the College will be extended throughout England, Wales, and the Isle of Man. The College will have powers given to it adequate to the great object in view, the protection of the public from unqualified, and therefore, we may presume, ignorant practitioners: and the legal acumen of the law officers of the Crown will doubtless be exerted to give stringency to the intentions of the government and legislature. There must be no loop-hole left by which parties may compound with the College by the payment of five pounds per month, or sixty pounds per annum, as we believe was once done.

2. The visitation of the shops of chemists, druggists, and apothecaries, (if it be thought right to continue this antique observance) will, we hope, be taken away from the College of Physicians. If it rests any where, the power should undoubtedly reside in the Worshipful Company of Apothecaries, or in the equally worshipful Company of Pharmaceutists, if they should have energy and interest enough to acquire for themselves a local habitation and a name before the final settlement of the question of Medical Reform.

3. The superintendence of the Pharmacopœia, will, we should hope and trust, be still confided by the Government to the College of Physicians—at least until measures can be taken for the formation of an Imperial Pharmacopœia, applicable not only to Great Britain and Ireland, but also to our colonies. The importance of such a national undertaking as this, few, we suppose, would hesitate at once to acknowledge; but all who reflect deeply on the subject will see with how many difficulties the question is surrounded, and how many years must elapse before a consummation so desirable can be effected. In the meantime, to the College of Physicians should be delegated the task of superintending the Pharmacopœia for England and Wales. It would probably be found advantageous to direct, by the charter, at what intervals of time new editions of the Pharmacopœia should appear. The first Pharmacopœia of the London College appeared in 1618, during the reign of James I., just 100 years after the foundation of the College. During the 223 years which have elapsed, there have been twelve editions of the Pharmacopœia, being an average of one edition every nineteen years. Probably, considering the rapid improvements now taking place in chemistry, it would be desirable to have a new Pharmacopœia, like the Census, every ten years. This would prevent changes of so extensive a nature as have sometimes been urged as matter of complaint against the College.

4. The new charter of the College will, we should hope, settle definitively the question whether the College should simply issue the license *ad practicandum*, or should possess the further privilege of conferring titles of honour. Our readers are aware that, a few years ago, the College assumed (or if it be thought more proper to say *revived*) the power of designating their

licentiates by the title of Doctor. Many have availed themselves of the honours thus bestowed, while others have doubted how far the College were justified in their practice of *creating* as well as of licensing physicians. It is hardly worth while to argue the rights of the case at this time of day, but the matter should be set at rest by the terms of the new charter. The interests of the public would probably be best consulted by restricting the duties of the College to that of licensing physicians who have been already created such by other competent authorities, and who, in the interval between the age of 21, when they may have acquired the title, and that of 26, when they are prepared to enter upon actual practice, may have either lost or added to the information which they previously possessed.

5. The new charter will doubtless define accurately the several distinctions hereafter to exist among the members of the College, or Commonalty, or Incorporation of English Physicians. The animadversions which, on the 5th February, 1834, we made on the term *permissi* will not, we are sure, be forgotten. Out of the senior fellows should be chosen a Council of 24; and out of the Council the President should be elected. The machinery of the eight Elects has long become obsolete, and should have had its quietus many years ago. We hope that in the arrangements for the future election of the Council the utmost liberality will prevail;—that the election will be open to all members of the College; and that proxy as well as personal votes will be received. To exclude the non-resident members would be most invidious; and our new system of postage cannot be more legitimately employed than in contributing to extend and foster a spirit of good fellow-

ship among the widely-scattered members of a liberal profession.

6. We trust, lastly, that in any new charter which the Government may think fit to concede to the College of Physicians, due provision will be made for carrying into effect one of the changes recently contemplated: we mean the holding an annual conference (or *concio*), open to all members, at which a report of proceedings during the preceding year may be read, and such other business transacted, as may be suitable to the occasion. We cannot but revel in the anticipation of that day when a convocation of all the practising physicians throughout England and Wales shall unite in offering to the Queen of these realms, on a great national occasion like the present, their loyal and cordial congratulations.

We have thus endeavoured to sketch out briefly the plan on which we think a charter for the College of Physicians might, without much difficulty, be constructed, calculated to work extensive good in this country, and to conciliate all reasonable people. Before many weeks have elapsed, we shall hope to advance in the consideration of medical reform, by some reflections on the Apothecaries' Act of 1815, and on the changes which a quarter of a century has rendered necessary in that department of the profession.

NOTES FROM CLINICAL LECTURES,

*Delivered during the present Session, at
University College Hospital,*

By C. J. B. WILLIAMS, M.D., F.R.S.
Professor of the Practice of Medicine and
of Clinical Medicine.

Dilated hypertrophy of the heart. Disease of the aortic valves. Disease of the liver. Post-mortem examination.

IN one of my late lectures you may remember that I described the case of Maria Kyte, who was admitted in a state of such extreme oppression and exhaustion, that it was not possible to

examine her very minutely; but the general and physical signs plainly indicated that she was labouring under extensive disease of the heart and lungs, which, on examination after death, proved to be extreme contraction of the mitral orifice, and extensive congestion of both lungs, with considerable serous effusion into both pleural sacs. I then directed your attention to the case of M. Lampett, who had been some time in the house, as one in which we could make a much more minute diagnosis, and in which the diagnosis would soon be tested by examination after death. I will read the chief particulars of the case, referring you to the books for the further details, which have been well reported by my clinical clerks, Messrs. Canney, Leonard, and Hare.

Mary Lampett, æt. 46, admitted August 14th, 1841: laundress. Was in this hospital, under Dr. Carswell, in the summer of 1839, for morbus cordis, bronchitis, and anasarca, which had been gradually coming on (not preceded by rheumatism). Was discharged much relieved, and was able to resume her occupations until about four months ago, when she caught a severe cold from getting wet through. Ever since she has suffered from difficulty of breathing; severe cough, with frothy, viscid expectoration, often tinged with blood; violent palpitation, and constant pain below left breast, sometimes shooting to the sternum, left shoulder, and neck, with a feeling of constriction across the chest; violent throbbing in the head. These symptoms have increased in the last fortnight, the dyspnoea has prevented her from lying down, and the legs and abdomen have become swelled. When admitted, in addition to the above symptoms, which continue, the face was swelled; the urine scanty and high coloured, specific gravity 1.015, not coagulated by heat or nitric acid; appetite bad; thirst; increased oppression after eating; pulse 90, jerking and full at each stroke, but suddenly receding; swelling of legs extensive, and pits on pressure; obscure fluctuation in the abdomen; extensive dulness, and strong heaving impulse, from right margin of sternum to below left breast; action of heart irregular, and attended with a double murmur; the murmur, with the impulse, is loud and blowing, heard best at the mid-sternum, heard also below left breast, but more distinctly at upper sternum and carotids: the murmur with the diastole, is loud and cooing, and is heard in the same situations as that with the impulse: natural second sound barely audible at the beginning of the second murmur to the right of mid-sternum: extensive sonorous and sibilant rhonchi throughout the chest.

Diagnosis.—The palpitation, as well as the physical signs, pointed out the heart as the chief seat of disease. The dulness and

increased impulse, with heaving, indicated hypertrophy, and the double murmur heard at mid-sternum and over the large arteries announced the existence of obstructive and regurgitant disease of the aortic orifice. The latter lesion was further indicated by the pulse, which was frequently pointed out at the visits as highly characteristic of hypertrophy with very free aortic regurgitation. The radial pulse felt like a liquid ball jerked through the artery, instantaneously followed by a complete collapse of the tube; the full, strong wave, injected into the arteries by the systole of the thickened ventricle, suddenly sinking at the diastole, with the free reflux backwards into the ventricle. This abrupt alternation of filling and emptying rendered the arterial pulse visible, locomotive, starting out of its place, especially at the bends of the arteries, to a degree not produced by any other lesion. The sudden tension of the artery at each pulse, even in the radial artery, caused a sound, which was a simple beat when no pressure was applied, and a whizzing under even slight pressure. The rhonchi shewed that the air-tubes were partially obstructed; and the bloody viscid sputa might be fairly ascribed to bronchitis in lungs congested from the inefficient propulsive apparatus of the left ventricle.

Treatment.—The heart was unable to propel the blood, which accumulating in the lungs caused the dyspnoea, and in the veins generally caused the general dropsy. We could not remove the organic disease, but we might remove the congestions occasioned by it, and lighten the mass which the imperfect heart had to move. This was done first by small blood-lettings from the arm, and by cupping between the shoulder-blades. Large or frequently repeated blood-lettings are hurtful in organic diseases of the heart; for although they may sometimes for the time relieve the symptoms, they render them more liable to return: they weaken the effective power of the crippled organ; they impoverish the blood, and increase the tendency to dropsical effusions. Hydragogue purgatives, diuretics, and blisters, are safer means of relief: they diminish the mass of blood without equally impairing its quality. They were the chief means employed here.

Elaterium was given in doses of one-eighth of a grain, first two, afterwards three, times a day. This caused copious liquid stools, and the flow of urine was likewise increased. Great improvement followed this treatment; the pains, dyspnoea, cough, being almost removed; the dropsical swellings much reduced; and the appetite returned, so that she was enabled to have ordinary diet. From the 9th to the 14th of September she considered herself nearly well.

On the 16th the stools became less copious, and the urine was less, the breathing more difficult, and the cough again troublesome. On the 18th the elaterium was discontinued, and large doses of cream of tartar substituted, (℥ss. ad ℥vi. 2do quoque mane), with the following diuretic :—

℞ Tinct. Cantharid. Tinct. Digitalis, aa. ℥xi. ; Infusi Sparti ℥ij. ; Potassæ Nitratis, gr. x. ter die.

20th.—No relief ; dulness and defective breath-sound in lower half of right chest ; much sonorous and mucous rhonchi in both lungs. She was again cupped, and afterwards blistered between the shoulders. Some relief was given to the breathing ; but on the 30th, the bowels not being much opened, the cream of tartar was increased to ℥j. ; and, the urine not having increased, ℥j. Potassæ Acetatis was substituted for the Tinct. Canth. in the diuretic draught. From October the 2d to the 9th the bowels were fully acted on, and the urine augmented, with corresponding relief to the symptoms.

After this the excretions again became scanty, and the dyspnoea, swellings, &c. aggravated, and the use of the former measures, and many other remedies, variously combined, failed to give more than temporary relief ; whilst increasing sallow pallidity and weakness, nausea, and loathing of food, indicated the sinking of the constitution.

I have had occasion to point out to you before, that, except the supervention of inflammatory attacks, the continued failure of the excretions is the worst event that can show itself in organic diseases of the heart. If these diseases come on gradually (which for the most part they do) it is astonishing what an amount of lesion is compatible with life ; nay, with a very tolerable amount of health and limited activity, so long as the excretions are free. If these are interrupted, then the defective machinery of the circulation works its worst effects : dropsy, asthma, angina, or some such array of formidable symptoms, show themselves. Yet even these may sometimes be removed by means which restore the excretions ; and many a time have I seen cases of extensive morbus cordis restored from an apparently hopeless state by measures of this kind, combined with stimulants or antiphlogistics, according to the nature of the case. But the period comes when these means fail ; and this period generally corresponds with the supervention or advancement of structural disease in one or both of the great excretory organs, the liver or the kidneys. This disease generally consists in the deposit of a low, organizable (cacoplastic) matter in the secreting structure of these organs, which presses on, and gradually supersedes, much of this structure, and with it the secreting power. These

changes in their advanced degrees are recognised under the terms cirrhosis in the liver, and granular degeneration in the kidney ; but in their slighter forms may be met with in most fatal cases of prolonged disease of the heart.

In the present case, the ascites and the absence of albumen in the urine throughout the disease, led to the suspicion, that the liver, more than the kidneys, was the seat of this change.

During the last fortnight, the bowels were moved with great difficulty ; requiring croton oil and turpentine injections, which gave some relief. The swelling of the legs was somewhat reduced by a few acupunctures. The stomach became extremely irritable, and retained nothing but gin and water, and occasionally a little beef-tea. She died Nov. 14th.

Sectio post-mortem horis XXX.

Body generally œdematous, especially lower extremities ; slight fluctuation in the abdomen.

On opening the chest, right lung only collapsed, left being retained by adhesions : right pleura contained about half a pint of clear serum : both lungs were heavy, little crepitant, pitted on pressure ; and on incision, exuded a copious slightly frothy serum. Texture of right lung pale ; that of left red. At apex of right lung was a puckering of the pleura, with induration underneath, and with prominent dilated air-cells around it : on cutting into the induration, it was found to consist of dense, dark-coloured tissue, in the centre of which was a mass of putty-like matter of the size of a pea. At the summit of the left lung were a few minute hard granulations under the pleura, with a patch of dense false membrane over them ; and there was an expansion of bluish glistening fibres over the whole upper lobe of this lung (hypertrophy of fibrous layer of pleura). The coats of the blood-vessels of the lungs were observed to be unusually thick, and on the pleura in some parts formed arborescent prominences. Mucous membrane of bronchi much injected.

The heart lay more horizontally than natural, its apex being high and further to the left. It was much enlarged, reaching above the third left rib, and to the right of the sternum as well as beyond the left breast. On experiment, it was found that the valves retained water poured into the pulmonary artery ; but the aortic valves entirely failed to hold water poured into the aorta. On carefully opening the heart so as to injure none of the valves, all the valves were found pretty healthy except the aortic. Of these, as you see, one is of natural size, simply thickened, and rather rough, with a round small aperture near its attachment. The next is

much thickened or shrunk in its depth, so that its free margin is much below that of the other valves; moreover, the free rim of half this valve has become detached from the artery and hangs a hard cord-like body from the centre of the valve. The third valve is contracted to half its size, much thickened, and perforated by two rounded holes near its attachment to the artery. The mouth of the aorta is somewhat dilated, and so are the openings of the coronary arteries; there is much opaque and some osseous deposit, rough to the fingers, in the aorta near the valves. Left ventricle thickened; cavity elongated; right auricle and ventricle much dilated; walls of the latter thicker than natural. Weight of heart, $19\frac{1}{4}$ ounces.

Four or five pints of clear serum in abdomen.

Liver rather large, with rounded margin; its right portion partially adhered to the diaphragm. On its upper surface was some old cellular false membrane infiltrated with serum, presenting a gelatinous appearance sometimes mistaken for recent lymph. The texture of the liver was very mottled, coarse, and with the nutmeg appearance. The dark parts were obviously much congested, freely exuding red blood on incision. The light substance was of a yellowish-white colour, generally surrounding the red, of a rather solid, but fragile consistence. The light deposit was most abundant and coarse in the right lobe, especially in its most dependent part. A similar deposit in an arborescent form, was here and there under the peritoneal covering of the upper surface of the liver. Gall bladder full of dark green bile. Weight of liver, 4 lbs. (avoird).

Kidneys were congested; texture rather soft; capsules easily torn off, but carrying with them small grains of the cortical texture. Weight of each, $5\frac{1}{2}$ ounces.

Spleen healthy. Two small supplementary spleens near it of about the size of hazel nuts.

Large veins of stomach distended, and, by transudation, had stained the coats of the stomach: a patch of fine striated pink injection, without softening, on anterior surface.

Uterus healthy. A small serous cyst attached to left Fallopian tube, the fimbriated end of which adhered across the ovary. About two inches of the right Fallopian tube were distended with a clear fluid.

The other organs were healthy.

I need not point out in detail how entirely the results of this examination correspond with the opinions which had been expressed during life as to the seat and nature of the disease. The lungs were oedematous, the left only being congested with blood. The lesions at the summits of both lungs are such as we very commonly meet with in persons who have suffered long from pectoral disease. I have often told you my reasons for con-

sidering that they are allied to tubercle, differing rather in extent than in kind from the acknowledged forms of that deposit, and the changes to which they lead. The hypertrophied state of the vessels of the lungs I would ascribe to the long-continued increased action of the heart. The disease of the latter organ corresponded with the diagnosis not only in the seat but in the amount of the lesion, the valves obviously permitting very free regurgitation: and with this was associated the elongated enlargement of the left ventricle, which I have commonly observed to accompany regurgitant disease of the aortic valves.

The deposit in and upon the liver well illustrates the change of nutrition in the excreting organs, which I have told you is a common event in long-continued morbus cordis. It was a variety of cirrhosis, in the stage of fragile deposit, not advanced to that of contraction: (not that all these deposits do end in marked contraction; some go on increasing in the form of rounded masses, as you may see in several models and drawings in the College.) In the predominance of the change in the most dependent parts of the organ, you may see some confirmation of the opinion I have often expressed, that these changes depend much, if not chiefly, on congestion long continued. Such congestion we found still present; and from its form, according to the views of Mr. Kiernan, it should be considered as chiefly in the hepatic venous plexus.

Hepatic Congestion: diagnosis; treatment.

The next cases to which I would direct your attention, are those of Mary Hennen, æt. 20, and Mary Hill, æt. 37; both cases of disordered digestion, with congestion of the liver. Referring you to the books for a very full report of their cases, I may remind you that the former was admitted Oct. 26th, complaining of pain in the epigastrium not increased by pressure, and frequent vomiting, so that she could retain no food on her stomach. No heat of skin; tongue slightly furred, with red spots. These symptoms were at once relieved by a blister to the epigastrium, and a draught with hydrocyanic acid and carbonate of soda. Blue pill at night, and castor oil in the morning, were also given.

Nov. 1st, was nearly well; but on the 2d complained of more pain in the right hypochondrium. The dull stroke sound of this region extended not lower, but higher, than usual; to the breast in front, and nearly to the lower edge of the scapula behind. Was this dulness from enlarged liver, or from effusion in the right pleura? We found that the breath sound was heard pretty low down into the dull region, without rhonchus, and was here sharper than usual;

but without bronchial breath or voice sound above. On trying degrees of percussion in the manner which I have often recommended to you, we readily solved the question: gentle percussion gave a more hollow sound than strong percussion; shewing that the lung, the seat of the breath sound, was superficial; and the denser body giving the duller sound on strong percussion, was deeper seated, and must therefore be the liver. This organ was, therefore, enlarged; and the absence of the active symptoms of hepatitis left to us the conclusion that the enlargement was congestive; a species of swelling to which the venous constitution of the liver renders it especially liable. As causing this congestion, we might refer to a cold, with headache, drowsiness, &c., caught about three weeks before admission; but we must also take into account the fact, that this girl, although not deficient in blood, had not menstruated for five months. We had assured ourselves, by the pallid nipples and the absence of tumor or uterine murmur in the abdomen, that pregnancy was not the cause of the amenorrhœa.

The treatment employed to remove the congestion of the liver, was by means calculated to increase its secretion, repeated doses of calomel and blue pill, with a little antimonial powder, a daily dose of castor oil, and a blister to the side. Under these means the pain in the side soon left her; and on the 9th the dulness of the right side was nearly gone. She was given compound decoction of aloes twice a day to keep open the bowels, and to promote the return of the catamenia. She will be liable to a return of her disorder until the periodic relief is restored; but as that is not more likely to take place in the hospital than out of it, she was discharged apparently well.

The other patient, Mary Hill, had long been subject to bilious attacks, with sickness, costiveness, and pain in right side. The present attack began six weeks before her admission (Nov. 6) with severe pain in the abdomen, and vomiting, for which she was treated by leeching, mustard poultices, aperients, &c., which relieved the pain in the abdomen, but left pain and tenderness in the right hypochondrium and scapula, sickness, and headache. There was dulness in the lower part of the right chest, chiefly at the side and back. Tongue clean; thirst; pulse natural; bowels not open three days.

CC. Hypochon. dextroad ʒviij.

℞ Hydrarg. Chlorid. Pulv. Antimonialis,
aa. gr. ij. Pil. Hydrarg. Extr. Conii, aa.
gr. iij. Fiant pilulæ ij. bis die sumendæ.

℞ Sodæ Tart. ʒij. Sodæ Sesquicarb. ʒss.
Aquæ Menthæ, Aq. Font. aa. ʒi. Fiat
haustus bis die sumendus.

These medicines were continued three

days, and with aid of senna draught opened the bowels freely, and relieved the symptoms, except the pain in the right side. On the 13th, the catamenia appeared; all medicines were suspended until the 16th, when the pain and dulness were almost gone, and left entirely after an aperient. She was discharged well on the 19th.

This case illustrates the influence of the natural periodic discharge in assisting to dissipate congestion of the liver; and I would remind you, that this natural means of relief is, in slight cases, for many reasons, better than the continued use of medicine.

INSURANCE OFFICES.

To the Editor of the Medical Gazette.

SIR,

IF you consider the following statement and correspondence relative to Assurance Offices worthy of your pages, I shall feel obliged by your giving them an early insertion.

I am, sir,

Your obedient servant,

GEORGE HARVEY.

Castle Hedingham, Essex,
23d Nov. 1841.

On the 16th Nov., I received one of the usual letters from the Secretary of the Clergy Mutual Assurance Society, containing seventeen queries, but without either a fee enclosed, or any intimation that one would be forthcoming: I therefore immediately sent the following letter.

Sir,—In reply to your letter of yesterday containing various questions relative to the health of the Rev. ———, I beg leave to inform you that I have, in common with many other surgeons, formed the resolution of not replying to such queries without a fee, which fee, we have no hesitation in saying, ought to be paid by the proprietors of the Office, as they (and not the individual desirous of insuring) ask the questions for their *own* safety and satisfaction. If, therefore, you will have the goodness to forward me the sum of one guinea, all the questions shall be immediately and decidedly answered.—I am, sir,

Your obedient servant,

To W. Webb, Esq. G. HARVEY.

Castle Hedingham, Nov. 16, 1841.

By return of post I received the following answer.

“Sir,—In the Clergy Mutual Assurance Society there is neither a proprietary, or any paid directors—the latter render their services gratuitously for the benefit of the profession, and as, therefore, the assured members alone share the whole of the profits, the Society does not undertake the payment of medical fees.

"I have enclosed your note to the Rev. ———— I am, sir,

"Your obedient servant,

"To G. Harvey, Esq. W. WEBB.

"40, Parliament Street, Nov. 17, 1841."

The same post also brought me the following letter from my friend, who was desirous of insuring.

"My dear Sir,—I have this morning received from the Clergy Mutual Assurance Office, your note addressed thereto, respecting the fee. The Secretary writes me word that, as there is neither a proprietary nor any paid directors, the assured members alone share the whole profits; and that, under these circumstances, the Society does not undertake the payment of medical fees.

"It appears strange to me that all usual and necessary expences are not paid by the Office and deducted from the profits. As it appears not to be their practice, I shall be happy to bear the fee myself.

"Believe me, very sincerely,

"———"

November 18, 1841."

I immediately sent the following letter to the Office.

Sir,—In reply to yours of the 17th, stating that there is neither a proprietary or any paid directors in the Clergy Mutual Assurance Society, and that the directors render their services gratuitously for the benefit of the profession, I beg leave to observe, that if your Society, or any other association of gentlemen, resolve to render their services gratuitously *for their own mutual benefit*, they are undoubtedly at liberty so to do, but I cannot understand that such resolution gives them any claim to the gratuitous services of the medical profession, in order to enable them to decide on the eligibility, or otherwise, of those desiring to insure at their office.

I am greatly obliged by your enclosing my letter to the Rev. ———— as it has enabled him to view the matter in what I consider its proper light: he agrees with me in opinion, that the fee ought to be paid by the Office and deducted from the profits, but as this is not your practice, offers to pay it himself; this, however, I hope, on re-considering the matter, you will not allow him to do.

I have returned your letter with all the questions answered in what, I hope, will prove a satisfactory manner to all parties, and remain, sir,

Your obedient servant,

To W. Webb, Esq. G. HARVEY.

Castle Hedingham, Nov. 19, 1841.

Here the matter rests for the present. I have heard nothing more from the office, nor do I suppose I shall till they again require

my professional opinion; but I am firmly resolved neither they nor any other assurance office shall have any medical opinion from me without the fee of one guinea; and I earnestly request all my professional brethren to form the same resolution. And in order to induce them firmly to insist on their demand, I will take the liberty of relating a little anecdote.

Some few years since I received one of the usual letters from the National Provident Institution, which I refused to answer without a fee. One of their agents waited upon me, and informed me he had already given a fee to a medical gentleman employed by the office, and that no other opinion would be paid for. I advised him to rest satisfied with the opinion he had gained. No, he replied, the surgeon employed by the office has never attended the person professionally, and scarcely knows him, but you have been his medical adviser, and have known him several years; therefore I must have your answers to these questions. I told him positively I would not answer a single question without a fee. He then said he would consult the directors, and left me.

A short time afterwards he called again, and offered me half-a-sovereign. This I refused, telling him I was neither a Jew nor a horse-dealer, when, after saying I was the most obstinate man he had ever met with, down came the guinea!

THE "TENDER" SYSTEM.

To the Editor of the Medical Gazette.

SIR,

You would deeply oblige some of your numerous readers, by informing them, through the medium of your valuable journal, if the alteration which Mr. Guthrie has proposed touching the appointment of medical men to the unions under the Poor Law, be prospective only, or also *retrospective*? Whatever be the result, the medical men ought to be much indebted to Mr. Guthrie, for proposing the amendment, and endeavouring to destroy (what is facetiously termed) the *tender* system; which is, in fact, most cruel and unjust to the poor. And as it is impossible for any man to do his duty upon terms which cannot remunerate him, the consequence is, the Guardians (we infer) are imposed upon, and the poor in the country districts neglected. The reason is obvious why so very few gentlemen, and regularly educated men, are attached to the unions.—I am, sir,

Your obedient servant,

M.R.C.S.L.

Nov. 30, 1841.

[We understand the alteration alluded to to be prospective only.—ED. GAZ.]

VASCULARITY OF TUBERCLES.

To the Editor of the Medical Gazette.

SIR,

I BEG, through the medium of your journal, to say a word to Dr. Kingston and your readers on the subject of the vascularity of tuberculous matter. No one can be induced to believe that blood-vessels are present in tubercle who has not other evidence in favour of this view than that contained in the passing observation of M. Lugol and Dr. Macartney. To prove this proposition a series of careful investigations, containing the result of injections of tuberculous matter at different periods of its development, must be made, so that the sources of the blood-vessels shall be demonstrated, their mode of distribution accurately described, and the manner and the stage of disease in which these vessels gain the substance of the tubercle, definitely pointed out. Any one who peruses Dr. Kingston's paper on this subject, in the 20th volume of the *Medico-Chirurgical Transactions*, must feel that he has done nothing to decide this interesting question; and the reader looks in vain for arguments or facts carrying a conviction that tuberculous matter is vascular. In this paper Dr. Kingston says, that in some tubercles he saw no appearance of vessels, but others were pervaded by lines, like vessels of a dingy or dark-brown colour, sometimes approaching to black. The detection of these lines in several specimens induces the author to sum up with the following observation:—"The proof here adduced of the vascularity of the common pulmonary tubercle appears to me complete in itself, and not liable to be shaken by any facts which may hereafter be brought to bear on the subject. I therefore have not deemed it necessary to ascertain the result of an injection." In addition to this Dr. Kingston says, "At present the impermeability to injection cannot be admitted as proving the absence of vascularity in parts whose vessels must be presumed to be so diminutive as those which nourish pulmonary tubercle." What makes these quotations more remarkable is the assertion by the author that the blood-vessels of tubercle are in some instances to be seen by the naked eye.

Dr. Kingston is equally diffuse in his reference to another subject. He says, "At last Mr. Liston has shewn that the injection of articular cartilage, which has been generally maintained to be impossible from a total absence of vessels, is only difficult, and may, with skill, be, under favourable circumstances, accomplished." Now the fact is, that the *favourable circumstances*, under which Mr. Liston injected articular cartilage, were *when it was in a diseased state*. It is evident that the great error of

Dr. Kingston is, that he has adopted the absurd idea of some French physiologists, in supposing the terms Vascularity and Organization to have the same meaning.

I am, sir,

Your obedient servant,

PATHOLOGICUS.

Nov. 30, 1841.

COLLEGE OF SURGEONS.

To the Editor of the Medical Gazette.

SIR,

I do not exactly understand what you object to with regard to the constitution of the College of Surgeons, in your leader of Nov. 19th. At present none of the Council possess any privilege which is not common to every member of the College, except only the right of voting when a vacancy occurs in their own body; and this, by your own shewing, they do not on the average attain until they have been twenty-three years in the profession. To place both parties on an equal footing, no member ought to have the right of voting till he has been in the College during the period just specified; but I do not believe that giving this privilege to those of twenty-three years' standing would make the members any better satisfied than they are at present. What would satisfy them?

Your obedient servant,

CIVIS.

[What we said, and what we repeat, is, that the profession at large will not be satisfied so long as the Council are self-elected, as at present they certainly are; because when one dies or resigns, so as to make a vacancy, they, and they alone, vote for his successor. What we suggested was, that when a vacancy occurred every member of the College who practises surgery, and surgery only, ought to be entitled to vote from the hour he receives his diploma, instead of waiting twenty-three years, as proposed by Civis.—ED. GAZ.]

PURIFICATION OF WATER.

To the Editor of the Medical Gazette.

SIR,

I HAVE just seen the number of your journal for October 15, containing an account of Professor Clark's plan for the purification of water.

Several years ago, when I was a student at Webb Street, the same plan was mentioned to me by Mr. Cooper, our chemical lecturer, as having been recommended by him at some manufactory (in the west of England I think), for the purifying of the water for the supply of the engine-boiler.

He mentioned also that the result of the adoption of his suggestion had been a saving of some hundred pounds per annum in the expense of cleaning the boiler, which I think had been previously necessary every week.

I subsequently recommended it, about eighteen months ago, in an institution with which I was then connected, as a means of purifying water charged with bicarbonate of lime.

The plan is one of such ingenuity, that I think it is but fair that Mr. Cooper should have the credit of prior suggestion.

I remain, sir,
Your obedient servant,
AN OLD PUPIL OF WEBB STREET.
London, November 24, 1841.

[The above is authenticated by the name of the writer, contained in a private note.—ED. GAZ.]

RECEIVED FOR REVIEW.

Elements of Materia Medica and Pharmacy, by O'Bryen Bellingham, M.D. Edited by Arthur Mitchell, M.D. Part 1.

Elements of Chemistry, by Robert Kane, M.D. M.R.I.A. Part 3, completing the work.

The Oily Acids, forming the First Supplement to Dr. Turner's Chemistry. By Justus Liebig, M.D., and W. Gregory, M.D.

Elements of Physiology, by J. Müller, M.D. Translated by William Baly, M.D. Part 6, containing Mind, Generation, and Development.

Physiology for the Public, No. 1.

ROYAL COLLEGE OF SURGEONS.
LIST OF GENTLEMEN ADMITTED MEMBERS.
Friday, November 19, 1841.

W. Cooper.—J. Harricks.—F. T. Nicholas.—P. Lavelle.—T. H. H. Davies.—J. Alexander.—A. Sargeant.—J. Gay.—G. L. Thorne.—G. M. Humphry.—J. Y. Godwin.

APOTHECARIES' HALL.
LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.
Thursday, Nov. 11, 1841.

E. Humby, Brighton.—W. O'Connor, Tralee, Ireland.—J. L. Teed, Plymouth.—G. B. Rosewall, St. Ives, Cornwall.

Thursday, Nov. 18, 1841.
J. S. Tylor, Ripon, Yorkshire.—R. E. Martin, Holbrook, Suffolk.—T. B. Trowbridge, Weymouth, Dorset.
Thursday, Nov. 25, 1841.

J. Lyde, Paington, Devon.—T. Taylor, Kidderminster.—R. C. Heslop, Chorley, Lancashire.—W. Knox, New South Wales.—F. A. Cramer.—G. E. Dunsterville, Port Elizabeth, Algoa Bay, Cape of Good Hope.

A TABLE OF MORTALITY FOR THE METROPOLIS,

Shewing the number of deaths from all causes registered in the week ending Saturday, Nov. 20, 1841.

Small Pox	9
Measles	30
Scarlatina	18
Hooping Cough	45
Croup	8
Thrush	8
Diarrhœa	5
Dysentery	2
Cholera	0
Influenza.....	3
Typhus	18
Erysipelas	8
Syphilis	1
Hydrophobia.....	0
Diseases of the Brain, Nerves, and Senses ..	120
Diseases of the Lungs, and other Organs of Respiration.....	258
Diseases of the Heart and Blood-vessels	18
Diseases of the Stomach, Liver, and other Organs of Digestion	63
Diseases of the Kidneys, &c.....	4
Childbed	3
Ovarian Dropsy	0
Disease of Uterus, &c.	1
Rheumatism	1
Diseases of Joints, &c.	1
Ulcer	0
Fistula	0
Diseases of Skin, &c.	0
Diseases of Uncertain Seat	101
Old Age or Natural Decay.....	60
Deaths by Violence, Privation, or Intemperance	14
Causes not specified	1
Deaths from all Causes	800

November.		THERMOMETER.	BAROMETER.
Wednesday	24	from 28 to 42	29'77 to 29'81
Thursday	25	26 39	29'70 29'81
Friday	26	22 39	29'79 29'73
Saturday	27	31 51	29'64 29'57
Sunday	28	40 50	29'57 29'44
Monday	29	43 56	29'16 28'95
Tuesday	30	51 53	28'84 29'15

Wind, W. on the 24th, N.W. on the 25th, N.E. on the 26th, S.E. on the 27th; since S. and S.W. On the 24th and following day clear. The 26th, a thick fog in the morning, otherwise overcast; a little rain fell in the evening. The 27th, cloudy and foggy; rain in the morning and evening. The 28th, evening cloudy, with rain; otherwise clear. The 29th, cloudy, with frequent and heavy showers during the day, and very boisterous. The 30th, evening clear, otherwise overcast; rain at times during the morning and afternoon, wind very boisterous during the night. The heavy rain on the evening of the 28th and following morning, caused the waters to be raised several feet about their usual level.

Rain fallen, one inch and 255 of an inch.

CHARLES HENRY ADAMS.

ERRATA.—In “J. B.’s” Sketch of Medical Reform, p. 316, paragraph 1—“The three to constitute one national faculty of medicine and surgery,” to follow “Dublin,” &c. Page 317, col. 1, line 57, before “dispensing,” insert “not.”

WILSON & OGILVY, 57, Skinner Street, London.

THE LONDON MEDICAL GAZETTE,

BEING A
WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

FRIDAY, DECEMBER 10, 1841.

LECTURES
ON THE
PRINCIPLES AND PRACTICE OF
PHYSIC,

Delivered at King's College, London,

BY DR. WATSON.

Phthisis, continued. Vomicae; adhesions of the pleurae; ulceration of the larynx and trachea—of the intestines; fatty liver; auscultatory signs of a vomica: gurgling, cavernous respiration, pectoriloquy; general symptoms of phthisis: cough, expectoration, dyspnoea, pain, hectic fever, diarrhoea, wasting, oedema, aphthae.

WE were engaged, when we separated yesterday, in investigating the *morbid anatomy* of consumption. Bear in mind how and where the tubercular matter, which is the essence of that disease, is deposited in the lungs: that it occupies by preference their upper lobes, and the upper part of those lobes; invading gradually the lower lobes, from above downwards, as the disease advances. Both lungs are, commonly, affected at the same time, though in unequal degrees. Among one hundred and twenty-three instances of phthisis, Louis found that the tubercles were limited five times to the left lung, and twice to the right. The tubercular matter, once deposited, may remain quiet and unchanged for some time; but in general it increases in quantity, until at length inflammation, of a low and scrofulous character, arises in the pulmonary substance in immediate contact with the tubercles—or in the cellular tissue involved in the larger agglomerated masses—in consequence of which inflammation a sort of suppuration takes place: the tubercular matter becomes soft, and breaks down, and is ultimately expelled through the bronchi, trachea, and mouth. The vacuities left in the lung after this pro-

cess of expulsion are called cavities, excavations, caverns, vomicae. And I go on to consider certain points of practical interest connected with these vomicae.

In the first place, as you may see by the specimens upon the table, they vary greatly in size. They may be no bigger, or not so big, as a pea: or they may be large enough to contain a pint or more of fluid. Sometimes the whole of the upper lobe is converted into a bag of this kind. These large cavities are never met with in the lower lobe. They are formed by the union of several that are smaller; so that they are often of very irregular shape, and divided, as it were, into chambers, by imperfect partitions, or by bands which cross them in various directions. Opening into the cavity there is always one, and there are generally several, pervious *bronchial tubes*, which seem as if they had been cut off just where they enter the cavity. But you never, or very seldom indeed, find a *blood-vessel* thus opening into the cavity. And the reason of these differences is plain enough. It is not, as some modern authors have fancied, that the arterial or venous tissue possesses a low degree of vitality, and therefore resists or avoids the destruction in which the surrounding tissues are involved. That principle may be applicable to other cases, but it is not applicable to this. The opinion I am now referring to proceeds on the supposition that the bands which sometimes cross the cavities are really blood-vessels that have escaped the disorganizing process. Such seems to have been the notion entertained by Bayle; and it has been more recently and more expressly advanced by Cruveilhier. But the truth is, that these bands rarely *contain* blood-vessels: and when they do contain them, the blood-vessels are mostly *impervious*. In one hundred and twenty-three cases, Louis found pervious blood-vessels in the bands no oftener than five times.

The true reason why bronchial tubes open into these cavities, and blood-vessels do not,

is to be found in considering the place and manner in which the tubercular matter is deposited. It is deposited principally on the mucous surface: it is not laid down in the blood-vessels, but alongside of them; consequently, in the agglomeration of the tubercular masses, by the softening of which the cavities are formed, the bronchial tubes included in the mass are filled up by it; and when the whole breaks down in scrofulous suppuration, they are expectorated with the rest of the detritus; but their open portions, beyond the point where the tubercular matter stopped, remain, and afford a channel through which the softened tubercular matter escapes. The blood-vessels, on the other hand, are either pushed aside or compressed, and flattened, and obliterated; and the obliteration extends beyond the point where the sides of the vessel are forced together: just as you know a coagulum forms and seals up an artery which has been tied during life, some little way beyond the ligature. This, then, appears to be the simple reason why the air-tubes communicate with the vomicae, and the blood-tubes do not. Occasionally indeed—but that, I repeat, is a rare occurrence—a considerable blood-vessel *does* get laid open during the formation of a vomica, and then copious and fatal hæmorrhage ensues. Occasionally also an oozing or exhalation of small quantities of blood takes place from the inner surface of the cavity, tinging the matter expectorated.

When the vomica is first formed, by the expulsion of the tubercular matter, its inner surface is soft and ragged; and if other softening tubercles are in the immediate neighbourhood, the cavity goes on enlarging; that is, two or more vomicae coalesce. If, however, there happen to be no more tubercles therabouts, the cavity may remain stationary. Its inner surface then becomes smoother; and something like a membrane forms upon it: and sometimes a puriform fluid is poured out by this surface, and sometimes not. Generally the pulmonary tissue around such a cavity is condensed and solidified; partly perhaps by crude tubercular matter which it contains, partly in consequence of the inflammatory process of which it has been the seat during the softening of the tubercles. It is important to bear in mind this fact of the condensed solid state of the lung immediately surrounding a vomica; for it explains certain peculiarities met with in the symptoms.

There is another point of much interest connected with these vomicae. When they occur singly, without other tubercles or cavities (which, though a very rare thing, does sometimes happen); and when occurring thus singly they have been completely emptied of the tubercular matter; they may gradually contract, and ultimately become obliterated.

This approach of their sides leads to a puckering of the pleura on the surface of the lung: and, on the other hand, a puckering of the surface indicates that beneath it there is probably a collapsed vomica. Its inner surface becomes converted in that case into a substance resembling cartilage: and the appearance it presents is called a cicatrix: and really it deserves that name. The process which has gone on is a process of natural recovery: and the recovery would be complete, if no fresh deposit of tubercular matter took place. Too often, however, the tubercles multiply, until at length their number, or size, or effects, become incompatible with the farther continuance of life.

This, then, is one way in which tubercular disease, *limited to one small* portion of the lung, *may* be eliminated, and the part which it occupied undergo a kind of repair. But the disease, *when so limited, may cease* in another way. The more watery parts of the morbid secretion may be absorbed; and the earthy salts it contains may concrete; and the whole be converted into a shrivelled, hard, chalky mass, which sometimes is coughed up, sometimes, in favourable cases, remains for years in the lung, an inert and almost harmless body.

Let me state, while I think of it, that the expectoration of these chalk-like concretions, denoting, as it usually does, the existence of pulmonary consumption, marks at the same time the chronic character of the case. I am acquainted with a gentleman who, though delicate, enjoys a very fair share of health, and who has for years been coughing up, at intervals, little branching fragments, like bits of white coral, consisting principally of carbonate and phosphate of lime, and evidently moulded in the smaller bronchial tubes.

When the tubercles are numerous—or rather when they lie near to the surface of the lung, as, of course, they are likely to do when they *are* numerous—they very generally give rise to dry or adhesive pleurisy. So that, in a person dead of consumption, it is a very rare thing to find the lungs free from adhesions to the ribs. I mentioned before that this attachment of the lung to the walls of the chest affords a protection against a much more formidable condition; namely, perforation of the pulmonary pleura, and the escape of tubercular matter and air into the serous cavity: producing that worst kind of pleurisy which constitutes pneumothorax. That the pleurisy and adhesion is the consequence of the presence and irritation of the tubercles, appears from this:—that, for the most part, the extent and the situation of the adhesions correspond with the extent and situation of the tubercular disease. Thus, a single spot of adhesion has been seen to unite the costal and pulmonary

pleuræ exactly opposite a solitary tubercle which lay near the surface of the lung. As the summit and back part of the upper lobes are most thickly set with tubercles, so here also is the adhesion the most constant, and the most firm. You will often find the upper part of the lung invested with a thick cap of false membrane; and the connexion between the pleuræ so tough, that the lung breaks down in the attempt to separate them.

To shew you that these statements—which have long been familiar to those much conversant with disease and morbid anatomy—to convince you that they are strictly borne out by numerical or tabular facts, I may again have recourse to Louis. He tells us that in 112 cases which he himself examined of persons dead of consumption, and having therefore tubercles in their lungs, there was but one in which both lungs were free from adhesions. In eight cases the right lung was exempt from them; and in seven cases the left. Again, in twenty-five other instances, there were either no cavities, or very little ones; and the adhesions were accordingly of small extent, and easily broken down. In the remainder there were large vomicæ, and the adhesions were extensive, dense, and firm.

Such is a sketch of the changes which take place in the *lungs*, in consequence of the deposition of tubercular matter in them, and of the changes which that matter undergoes. But the air-passages that lead to the lungs are very liable to become implicated as the disease proceeds. The mucous membrane of the larynx and trachea ulcerate: and when the morbid condition of the larynx gives rise to prominent symptoms, and especially (as it is apt to do) to hoarseness and loss of voice, the disease is sometimes called *laryngeal phthisis*. But there is no such disease, that I know of, existing by itself. I mean, that *scrofulous* ulceration of the larynx and trachea occurs only when the lungs are affected with tubercles. It is curious that when ulcers are met with in the trachea, they are often found on one side of it only; on the side, viz. which corresponds with the diseased lung, or with that lung which is most diseased. In like manner, when some of the bronchi are found red internally, and even ulcerated, these appearances are confined to those bronchi which communicate with cavities: and do not occur in bronchial tubes that lead to crude tubercles. It is towards the back part also of the trachea that the ulcers are generally observed; the floor of that channel when the patient lies supine. And when the epiglottis is involved in the mischief, the ulcers are situated, almost always, on its laryngeal surface alone. We have strong reasons therefore for believing that their formation is attributable to the contact of the matter

which is expectorated, in its frequent passage over the mucous membrane.

In respect to these points also Louis has made comparative observations. Among 180 persons who died of some chronic disorder, *not* phthisical, he once only met with ulceration of the larynx; whereas of those who perished of consumption, as many as *one in every five* had ulceration of the epiglottis and larynx, and nearly *one in three* had ulceration of the windpipe. Hence it would appear that, if we except the effects of the syphilitic poison upon the larynx, ulceration of that part is almost peculiar to phthisis pulmonalis.

I have told you that consumption is not merely a lung disease. Its local ravages are most obvious indeed in the thorax; but it leaves in the abdomen also traces of its destructive agency not less definite and scarcely less constant. You know that the surface of the intestinal canal is strewed, throughout, with separate mucous follicles; the glands of Brunner: and that the lower portion of the ileum is furnished with other follicles, collected together in oval or circular groups, and denominated the glands of Peyer. When I come to speak of continued fever I shall have much to say about the changes which these little glandular bodies undergo in one form at least of that disease. These same glands are the frequent seat of tubercular deposit in phthisis. Here and there you may see a solitary yellow tumor, not larger than a hempseed, projecting from the surface of the bowel. In other places the ripened little tumor has burst, the tubercular matter is gone, and a ragged roundish ulcer remains. More frequently the aggregated glands are affected; and the ulceration, in them, varies much in form and extent. It often involves the whole patch, and then the shape of the ulcer is more or less elliptical. Louis met with ulceration of these glandulæ agminatæ in five-sixths of all the fatal cases of phthisis that he examined. Ulcers, of greater magnitude, were very nearly as common in the large intestines. And it is worthy of notice that, the disorganizing process being in these cases slow, nature has time (if I may use such metaphorical language) to provide against the threatened perforation of the gut. The tissue that forms the base of the ulcer, whether it be the muscular or the peritoneal coat, is thickened and vamped; or the bowel becomes adherent to some contiguous surface. Once only in my life have I known scrofulous ulceration, in phthisis, penetrate the serous tunic, and allow the contents of the intestine to escape into the sac of the peritonæum.

It is right that you should know—although the facts possess, as yet, no practical value—that the stomach is often much enlarged and thinned in those who die of consumption;

and that the liver is very apt to undergo a remarkable change, almost peculiar, I believe, to that disease. It also enlarges, and becomes full of adipous matter, greasing the hands and scalpel of the anatomist, and yielding when heated an oily substance, which makes a grease spot on paper in contact with it. The whole gland partakes in the alteration, is of soft consistence, loses its natural red tint, and assumes a pale fawn colour. No profession contributes like ours to the introduction of new, barbarous, and dissonant words into the English language. We have accordingly invented an epithet for this kind of liver. We call it the *fatty* liver. In three years Louis met with this fatty liver 49 times: and 47 of the patients died phthisical. It occurred in more than one-third of the whole number of the victims to consumption; whereas, among 223 cases, not phthisical, there were two examples only of this hepatic change. Its presence is revealed during life by no symptoms, except that the enlargement belonging to it may sometimes be ascertained by percussion and pressure with the fingers.

Let us now enquire what modifications of the healthy sounds arise from the altered condition of the lungs in phthisis. Most of them are such as you would naturally expect. Whether a portion of lung be rendered solid by common inflammation, or by the presence of tubercles in it, the result, as far as the auscultatory signs are concerned, will be the same. In such a piece of lung, supposing the solidification complete, no vesicular breathing can be heard; but bronchial breathing and bronchophony will be audible, in each case, if the solidified portion encloses a considerable bronchus, and comes near the surface of the chest. And percussion will give a dull sound, whether the lung lying beneath the part struck be hepatized, or blocked up by tubercular matter. On these points, therefore, after what was said in a preceding lecture, I need not dwell. But the excavations, the empty or half-empty vomicae—these are something new. We have hitherto met with no condition exactly similar to that of a *large* cavity. And accordingly I have to make you acquainted with two or three new sounds: or sounds which are modifications of those formerly described, and in most instances sufficiently distinct from them to have acquired peculiar names. You will remember that what we have called large crepitation depends upon the passage of air through liquids: the liquids being contained in tubes; those tubes the bronchi and their ramifications. But when pus or vitiated mucus, or liquid of any kind, is collected in a *vomica*, which communicates freely with the trachea through pervious bronchi, the bubbles produced by the entrance and exit of air will be still more nu-

merous and large; and a sound is then produced which the word *gurgling* expresses well. Laennec calls it *gargouillement*. This sound is heard, too, in a circumscribed space; and not diffused, as large crepitation usually is. Wherever, therefore, we hear gurgling during respiration, or during the act of coughing, there we conclude there is a *cavity*. But the cavity is not necessarily a *vomica*. In 99 cases out of a 100 it will be so; but in the hundredth case perhaps it will not. Bear in mind what was formerly stated of dilatation of the bronchi: how sometimes they terminate in a considerable globular expansion; sometimes belly out and contract again several times alternately: and you will see that cavities containing liquid, or liable to contain liquid, belonging equally to the one condition and the other, and the sound in question depending solely on the intermixture and agitation of air with liquid in a cavity, we cannot be sure from *mere* gurgling respiration, or gurgling cough, that we have a *tubercular* excavation beneath our ear; or that the case is one of consumption. Gurgling may also proceed from that very rare morbid condition, abscess, the result of common inflammation of the lung. These constitute the only sources of fallacy in the matter. The fallacy seldom interposes; but it does sometimes interpose; and therefore it must *qualify* our conclusion from this symptom of gurgling, in respect to cases otherwise doubtful.

Again the vomica may be empty of liquid; and then we hear, as the patient breathes, not vesicular breathing of course, nor yet exactly bronchial breathing; it is something more than that when the cavity is large, something different in character from it when the cavity is small. But whatever the character of the sound, as we believe it to take place in a vomica or cavern, we call it *cavernous respiration*. It is a hollow sound, especially when the cavity is of considerable size; an exaggeration of mere bronchial respiration. But the cavity may be small. The moment a portion of tubercular matter is separated and discharged through a neighbouring bronchial tube, the cavity has commenced; and the sound given out during the breathing in these little cavities may be of various kinds. It may be, and it often is, a click, like the opening and closing of a valve; or a chirp; or like many other well-known sounds: but, as all these sounds, under certain circumstances, denote the formation of a vomica, it is best, for simplicity's sake, to call them all by the same name—*cavernous respiration*.

Dr. Latham explains in a few words the causes of these differences. "The varieties of cavernous breathing are doubtless owing to different sizes, and forms, and situations of cavities, and to different conditions of the

surrounding lung. A cavity may be very large or very small. Several bronchi may open into it, or only one. It may be a simple cavity, or it may have many chambers. Its sides may be condensed and equal, or rough and ragged. The lung around it may be solid and indurated, or pervious and vesicular. It may be near the ribs, or far from them; adherent to, or separate from the pleura. It is quite obvious that these different circumstances are calculated to modify the sound, which will, nevertheless, be always such as indicates a cavity."

A tubercular cavity may be so large, and of such a kind, as to yield the metallic sounds which are apt to be heard in pneumo-thorax. I shew you a cavity in which those sounds were actually heard, most distinctly, by many persons, during the patient's life, while he was under my care in the Middlesex Hospital. I was certain beforehand that these sounds proceeded, not from the cavity of the pleura, but from a tubercular excavation. Once subsequently, in a patient who was dying of phthisis and diabetes, I have heard the same sounds; also I am sure in a tubercular cavity. That patient insisted on leaving the hospital, and I lost sight of him before he died.

I promised when speaking of these metallic sounds as arising (as they do much more commonly) from pneumo-thorax—a collection of air, or of air and fluid, in the sac of the pleura—I promised to point out the circumstances by which you may tell which of the two conditions in question the sounds denote. Both of the conditions imply, in general, the existence of tubercular phthisis; and therefore the observation of the ordinary symptoms of phthisis will not help us much.

Now there were two circumstances which, in the cases that I have seen, stamped them as cases in which the sound proceeded from a cavity *in* the lung, and not *exterior* to it. One was the *situation* in which the sound was *invariably* heard. The other was, the absence of excessive resonance when that situation was percussed. You know that when the air is contained in the pleura itself, the sound yielded on percussing the chest in the corresponding part is quite tympanitic, like that of a drum. But it is a well-ascertained fact, (though contrary perhaps to what you would suppose) that the sound is duller over tubercular cavities, in nine cases out of ten, than over sound lung. The explanation of this fact is simple enough. It is that the layer of lung, which still remains in such cases, thick or thin, is dense and solid, and damps the sound which the vomica might otherwise make resonant. But then again the situation of the metallic sounds was a guide. They occupied the upper part of the chest: the very part where vomicæ are wont to be the most common, and the largest: and

moreover a part where pneumo-thorax seldom or never exists. The summit of the lung is generally covered in phthisis with a cap of false membrane, which binds it to the ribs: and this, as I observed before, is the main reason why perforation of the pleura pulmonalis is so rare in that disease; and it is also the reason why, when it does take place, it seldom takes place at or near the apex of the lung. In truth it is found by experience that (though the rupture of the pleura *may* take place in any part) the place where it usually occurs is in the lower and back part of the upper lobe of the lung, opposite the angle of the third or fourth rib; that is, just beneath the edge of the false membrane by which the summit of the lung is generally adherent. But the sound, in the cases I refer to, was *invariably* heard at the very top of the chest. It did not shift, as that of pneumo-thorax may often be made to shift, when the patient changed his posture. Attention to these points will always lead you to an exact diagnosis. You may say, perhaps, "the complaint being in each case a mortal one, where is the use of so much refinement?" Why, there is this utility in it. We may sometimes, as I stated before, give great relief to the patient, and save his life for a time, by tapping the chest in pneumo-thorax. The air may get in with each inspiration, and threaten immediate suffocation, and the thorax being punctured it will issue in a blast. But no one would think of tapping a tubercular cavity.

To give out the amphoric resonance and the metallic sounds, the vomica must, I presume, be a *large* one. That which is before you, the only one I ever *saw* in which those sounds had been heard, is very large. Its inner surface is smooth: it adheres to the ribs externally by at least two-thirds of its circumference: and the medium of adhesion is very thin. Quite low down, a single bronchial tube, of about the third division, may be seen to enter it.

So much, then, for the modification of the sounds heard during *respiration*, by a tubercular cavity. But the *voice* also will be modified, if the cavity be of considerable size, and near the surface, and have dense walls, and is empty. Then we hear, in that part, when the patient speaks, the sound which is called *pectoriloquy*: as if the voice proceeded from the chest. The words are distinctly articulated into the ear of the listener. But I need not trouble myself or you by attempting to *describe* pectoriloquy. You may any day hear the exact sound that word is intended to denote, by placing a stethoscope over the trachea of one of your friends, applying your ear to the other end of it, and getting him to speak: just as you may obtain an exact notion of bronchial respiration by listening then to his breathing.

For some time after the first appearance of Laennec's great and original work on the diseases of the chest, pectoriloquy was deemed to be the pathognomonic and infallible sign of a vomica. "Oh, the young auscultator would say, I detect pectoriloquy beneath the clavicle. There can be no farther doubt about the nature of the disease. My patient has not only tubercles, but a cavity, in his lung." So I long thought; and so some, I fancy, think still. Yet the evidence afforded by mere pectoriloquy of the presence of a vomica, or even of the presence of tubercles, is far from being certain or trustworthy. Experience had taught me this before I knew that many others, studying under the same school-master, had learned the same truth. Among my hospital patients some years ago was a man who laboured under phthisis. Percussion gave a dull sound under his right collar-bone, and in the same spot loud and distinct pectoriloquy was audible. I well recollect inviting the particular attention of the pupils to this case, affording an exquisite specimen of pectoriloquy; and I predicted very confidently that after the patient's death, which was obviously at hand, a large excavation would be found in the summit of his right lung. My prediction did me no credit. The *left* lung indeed was hollowed by cavities, but there was nothing like a cavity in the right. The upper part of the lung was thoroughly and uniformly solid; filled with hard, grey, tubercular matter. The large bronchial tubes were pervious, and the voice descending into them had been conducted by the solid lung with perfect and almost painful distinctness to the listener's ear. This was a useful lesson to me: and I mention it that may be a lesson to you. Remember that solidification of the summit of the lung will modify the sound of the patient's voice very much in the same manner as a large vomica there situated. It is stated, indeed, and perhaps truly, that a practised ear can discriminate between the loud, diffused, though articulate, resonance of the voice produced by solid lung, and the circumscribed whiffing pectoriloquy of a cavity. But the distinction is too nice for the average of practitioners. Now since the pulmonary tissue may be rendered dense and solid by other causes than tubercles, pectoriloquy does not always indicate the existence of consumption. The fallacious condition does not often occur: for common inflammation is seldom limited to the upper part of the lung; and the whole of that part is seldom completely hardened by crude tubercles. But whenever it does occur, it is apt to mislead or puzzle. I was consulted last year about a gentleman in whom this phenomenon of pectoriloquy was strongly marked. Two excellent auscultators had been led, by this symptom, to the belief that

a cavity existed in the lung. Remembering the case I have just mentioned, and learning that the patient had been ill for a few days only, and had not previously suffered cough, or any apparent pectoral complaint, I was of opinion that the summit of his right lung had become hepatized by acute pneumonia. And it was so. The patient died; and the diagnosis I had formed was verified upon the inspection of the lung. Dr. Latham relates one or two examples to the same purpose. Dr. Stokes goes so far as to consider pectoriloquy the least important and most fallacious of all the physical signs of phthisis. Taken alone (he says) it is absolutely without value. Dr. Forbes has come to similar conclusions. Certainly cavernous respiration is a much more alarming sound.

Wherever actual pectoriloquy from a cavity is heard, there also will be heard cavernous respiration. But the converse of this is not necessarily true. There may be, and there often is, cavernous respiration and a cavity, yet no pectoriloquy. The cavity is not large enough, or not near enough the surface of the chest, or not of such a kind as to reverberate the voice.

Often when pectoriloquy is absent, and cavernous respiration is doubtful, and gurgling even cannot be heard (because the communication with the bronchi is not free), a slight splashing sound will occur when the patient coughs: nay, you may sometimes hear it, if he holds his breath, with every beat of his heart, which causes a little succussion in the cavity: but its contents must then be thin.

Now when the sounds I have been engaged in describing are well marked, they denote the existence of a vomica. The only source of fallacy is that which I formerly mentioned: the same sounds will arise from a cavity in the lung, whatever be its nature; and therefore they will arise when the bronchi are expanded into cavities. But I repeat, that this is a deceptive condition which you cannot calculate upon meeting with often.

When the sounds are not well marked, take time before you pronounce a decided opinion respecting them. Strong bronchophony comes very near to weak pectoriloquy; bronchial respiration may closely resemble some varieties of cavernous breathing: large crepitation, confined to a small spot, may simulate gurgling. It is better when the sounds are thus equivocal, and when they may denote conditions so very different in their nature and tendency, to suspend one's judgment, and to give a guarded opinion. A little time in such cases will clear away the doubt.

I am afraid of being tedious about these sounds; but really they are of immense im-

portance. Upon their exact appreciation, and correct interpretation, will depend the opinion you will be *called upon* to express; and that opinion will, in many cases, be a sentence of life or death in respect to the dearest friends of those who hear it. A correct diagnosis is also very important, in the early periods of the disease especially, for another reason. It is in those early periods alone that we can hope to arrest the progress of the complaint by art, or by change of climate.

I must now consider the *general* symptoms of this most afflicting disease: and while doing so, I shall point out how the physical signs confirm or confute their language, in cases which might otherwise be doubtful.

The general symptoms of phthisis are, cough, dyspnœa, expectoration, hæmoptysis, wasting, hectic fever, hoarseness, or loss of voice, diarrhœa; and there are some other symptoms that mark often some of its stages, and which I shall incidentally advert to. I shall speak of them all as briefly as is consistent with clearness.

Cough is one of the earliest symptoms of consumption; and it is that which commonly first attracts the attention, and awakens the fears, of the patient or the patient's friends. Generally at first it is slight, occasional, and dry: it occurs upon the patient's getting out of bed in the morning; or if he makes any unusual exertion in the course of the day: it feels to him as if it was caused by irritation about the throat. Sometimes it will cease for a while, as in the warm weather of summer, and recur in winter when the external temperature is lower. By degrees it begins to be troublesome in the night; and to be attended with more or less mucous expectoration.

Now when such a cough steals upon a person gradually, and when no reason can be assigned for its occurrence, that circumstance alone is enough to excite suspicion as to its true nature and cause. But chronic cough may exist without any tubercular disease of the lungs; as you well know. It may depend upon a disordered state of the *stomach*; the *pneumogastric* nerve may be irritated *there*. It may be the cough of *chronic catarrh*; it may result from disease of the *heart*; it may be the nervous, barking, importunate, cough which I formerly mentioned as of frequent occurrence in *hysterical* girls. And bearing these circumstances in your mind, you will enquire, and you will generally make out without much difficulty, whether there be any unnatural or deranged state of the digestive organs; or chronic catarrh; or cardiac disease; or hysteria. These are points on which I need not farther insist.

I may observe, here, that as chronic cough may exist when there is no consump-

tion; so consumption may sometimes exist, and even prove fatal, and large portions of the lungs may be disorganized, without there having been any cough; or at least without the occurrence of enough cough to draw the notice of the patient or his friends to it. This is not common, however: cough is usually present, more or less, during all the stages of phthisis; and it is often that symptom which most distresses and harasses both the patient and his family.

Great attention used to be paid to the *expectoration* in cases of suspected phthisis. It was thought that if a patient spat pus, he was in a state of confirmed consumption: and whole volumes have been written, and prizes awarded to their authors, respecting the means of distinguishing pus from mucus. But we now know that, so far as the diagnosis of phthisis is concerned, this is a very idle enquiry. The inflamed bronchial membrane may secrete pus; so that the presence or absence of pus in the sputa is no test at all of the presence or absence of tubercles in the lungs. If you are, nevertheless, curious to know how pus may be recognized, the simplest and most certain criterion is that proposed by the late Dr. Young. You are aware, that pus, like the blood, contains globules; and these globules, when examined through transmitted light, will exhibit prismatic colours; appear surrounded by rings of colours, somewhat resembling those of the rainbow, but differently arranged, and often beautifully brilliant. Mucus, having no such globules, affords no such coloured rings. The way to make the examination is, to put a minute quantity of the fluid between two small pieces of plate glass; to hold the glass close to the eye; and to look through it at a distant candle, having a dark object behind it.

Whether the expectoration be puriform or not, has ceased, however, to be a question of much importance as regards the diagnosis of phthisis. A portion of the matter expectorated comes from the surface of the bronchi, and consists of altered mucus: and therefore, the sputa brought up in phthisis, and the sputa brought up in bronchitis, are, in a great degree, the same: a part of it consists of a stringy transparent fluid, in which opaque masses of a yellow or greenish colour are seen to float; and intermixed also with which there may be a good deal of froth. The froth is a measure of the difficulty with which the mucus is brought up: and it is usually less abundant and conspicuous in phthisis than in bronchitis. The heavy, sage-leaf sputa that we sometimes see, belong to both diseases.

You may sometimes find portions of tubercular matter in the expectoration; a circumstance quite decisive, when we are sure of it, of the nature of the case: dull

yellow streaks, or little curd-like fragments involved in the mucus. But small opaque specks of that character are sometimes formed in the follicles of the tonsils; and this makes the appearance more equivocal. The sputa *most* characteristic of tubercular disease consist of globular flocculent masses, which look like little portions of wool more than any thing else. *Nummular* sputa the French call these, because when spat into a vessel not containing water, they assume a flat circular form, like a piece of money, and remain separate and distinct from each other. When they are spat into a glass of water, you will see that some of them subside to the bottom—some float on the top, suspended, apparently, by healthier mucus in which they are entangled, or by bubbles of air—and some remain suspended at different depths: when stirred and agitated in the water, they render it slightly milky. This kind of expectoration commonly marks a confirmed and advanced state of the disease; but it will continue for weeks sometimes. It is not *perfectly* pathognomonic, but *nearly* so. On one occasion I found expectoration of this nature from a man whom I did not very diligently examine by my ear; and I set the case down as one of phthisis chiefly on the observation of that symptom. The patient evidently had not long to live. The apothecary at the hospital, Mr. Corfe, had more time to explore the condition of the chest: and he came to the conclusion, that the disease was not tubercular phthisis, but extensive chronic bronchitis: and sure enough he was right. When we came to examine the lungs after the patient's death, not a tubercle could be found. I am satisfied that there is no kind of expectoration which indicates phthisis with *perfect* certainty; but that which I have just been describing very *seldom* occurs except there is phthisis. Louis appears to have noticed these round, separated, woolly masses *once* only unconnected with tubercles; and once the same thing has occurred to Chomel: so that, when the other symptoms are obscure and doubtful, this will materially augment the gravity of the prognosis. Flies appear to be more attracted by the sputa of phthisis than by any other.

Hæmoptysis is a kind of expectoration; the expectoration of *blood*. I have already spoken of this symptom as connected with phthisis, and have stated my belief on that subject; viz., that if a person spits blood who has received no injury of the chest, in whom the uterine functions are healthy and right, and who has no disease of the heart, the odds that there are tubercles in the lungs of that person are fearfully high. Excluding cases of amenorrhœa, and of mechanical injury to the thorax, Louis did not meet with a single example of hæmoptysis among

1200 patients, except in such as were phthisical.

I touched, at the same time, upon the question, whether hæmoptysis, which sometimes precedes for a while the manifestation of any other symptoms of consumption, is ever really the *cause* of it, as the old authors maintained. You will understand my persuasion to be that, occurring in connexion with tubercles, pulmonary hæmorrhage is always the *consequence*, and never the *cause*, of their presence in the lung. Andral relates a curious case, from which the contrary opinion might be argued. "A man, ill of chronic peritonitis, had been for nearly two months in La Charité, and had never presented any morbid symptom which had relation to the organs of respiration. He had no cough, and he breathed easily. One evening, for the first time, he suffered some dyspnœa; and in the course of that night he spat up a large quantity of florid and frothy blood. For the five following days the hæmoptysis continued abundant, then it diminished by degrees, and at length stopped. But the patient continued to cough, and to breathe with difficulty, and at length he died. In the right lung there were found several masses of a brownish red colour, exactly circumscribed, and constituting, in short, that condition which Laennec has called 'pulmonary apoplexy.' One of these masses contained a considerable number of granulations of a yellowish white colour, and having all the characters of minute tubercles in an early state. Two other of the red masses contained each a very small number of these white granules; and in the remaining masses no tubercles at all could be discovered, nor was there any trace of them in other parts of the lungs; but they were numerous in the false membranes of the peritoneum."

Andral argues, that in this case the partial collections of blood that were found in the lung could not have been *occasioned* by the presence of tubercles, because in the majority of these masses no trace of tubercular matter could be perceived. On the other hand, their existence appears *connected* with that of the apoplectic masses, because, except in the midst of some of these, no pulmonary tubercles could be seen. But such a case as this hardly bears out the conclusion that pulmonary hæmorrhage is ever the cause of tubercles. There were tubercles in the abdomen before; therefore, the disposition to tubercular disease pre-existed in this individual: and then tubercular matter was deposited in the places where blood was extravasated; just as we know it is deposited in the blood itself, in the spleen sometimes; or, what I think more probable still, the cluster of granulations provoked the hæmorrhage from the spot they occupied, and other

lobules of the same lung became blocked up by the reflux of blood, in the manner formerly explained.

Dyspnœa is not a very important symptom in phthisis. It is seldom extreme till towards the termination of the disease, and not always then. Patients who fear, and yet are unwilling to believe, that they are consumptive, will fetch a deep breath, and bid you remark how thoroughly they can distend their lungs; and they expect you to say that there can be no disease in those organs. I have been told that the late Dr. Baillie died of pulmonary phthisis; and that even he was accustomed to deceive himself by this test. However, though phthisical persons do not in general suffer much from dyspnœa, their breathing, though they may not be aware of it, or choose to acknowledge it, is generally, in some degree or other, short, or hurried. You may wonder that a disorder in which so large a portion of the breathing apparatus is often effectually spoiled, should be attended by so little distress in respiration; so little dyspnœa: but your surprise will be diminished if you consider the insufficient manner in which consumptive patients are nourished, in consequence of abdominal disease, and the extent to which their blood is wasted by diarrhœa, and by perspiration. The mass of blood is thus kept down to that measure which, passing through the still pervious portions of the lungs, is capable of being arterialized without any great deviation from the ordinary mode and frequency of breathing.

Neither is *pain* of the chest a very important symptom in consumption. In some cases severe pains are complained of, resembling those of rheumatism; in the sides, or beneath the clavicles. In others, no pain at all is experienced. When sharp pain occurs, it may be supposed that the pleura is inflamed and adhering in the painful part.

There is, however, one contingency of which the two symptoms last mentioned are sometimes very significant. When, during the progress of phthisis, violent pain of the side, and extreme dyspnœa and anxiety, set in *suddenly*, they denote, with much certainty, perforation of the pleura, and its serious consequences.

The *hectic fever* which accompanies phthisis is of much greater moment. It often creeps upon the patient insidiously. He feels chilly perhaps, towards evening; and in the night his hands and feet will be dry and burning; and in the morning he perspires. The most marked symptoms of the hectic are to be found in the perspiration, and in the state of the pulse. The perspiration is usually out of all proportion to the previous chilliness and dry heat. It seems to have a close connexion with the *sleep* of the patient: it seldom comes on while he con-

tinues to be awake; but after sleeping he wakes, and finds that he is sweating. The perspiration is generally most copious on the upper part of the body, the chest and head. Sometimes it is moderate; sometimes the patient is drenched and drowned in it. There is a good deal of uncertainty about this symptom, and of obscurity as to its cause. Generally speaking, it belongs to the more advanced stages of phthisis; but occasionally it accompanies its early periods. It will cease without any apparent cause; and recur again with the same capriciousness. A poor friend of mine, who died of phthisis, and was particularly harassed by the nocturnal perspirations, took it into his head that *posture* had something to do with them; and slept for several nights in succession *sitting* in an easy chair: and during those nights he certainly did not sweat, though he had been doing so profusely before. Louis found that one patient in ten escaped this symptom.

This is a symptom which is often very distressing to the patient, making him even dread to go to sleep: it tends also to the rapid exhaustion of his strength; and betokens, it is believed, when copious or persistent, a short duration of the disease.

Frequency of *pulse* is a symptom so generally present in tubercular phthisis, that too much importance has been ascribed to it as a diagnostic sign. I mean, it has been too much the opinion that the lungs are safe, when the pulse does not rise above its natural standard. Sometimes it remains steady nearly up to the period of dissolution. Such cases are, I believe, generally slow in their progress. Very recently I lost a friend whose lungs were full of cavities and crude tubercles. He had been a valetudinarian for years; but the pulmonary disorder had been manifested by decided symptoms during a few months only. At no period did his pulse exceed 68 beats in the minute. Commonly, however, the pulse is habitually above 90; and often it is much more. When there is nothing to account for this increased frequency of pulse it is a suspicious symptom.

Diarrhœa is a common, and an ugly symptom in phthisis. When it occurs early, as it sometimes does; when a patient having habitually costive bowels, becomes habitually relaxed; and you *suspect* only, from other causes, that he may have incipient phthisis; this change often sets its seal upon the nature of his disorder. Usually, however, diarrhœa does not become an urgent symptom till the disease is far advanced, and has already declared itself by unequivocal symptoms. When it so occurs, it is apt to harass the patient exceedingly; and rapidly to waste his strength and flesh. He appears to melt away under the influence of the purging;

which is therefore said to be *colligative*. It used to be held that the diarrhoea and the perspiration bore an inverse ratio to each other: that when one of them abated, the other increased. But the more exact observations of Louis and others have proved that this is not so: that neither in phthisis, nor in other diseases, have these symptoms any such reciprocal relation. One reason, perhaps, for this error, may be found in the circumstance, that acids, which have the effect often of checking the perspiration, tend also, as is well known, to produce diarrhoea. Louis found that this symptom began early in the disease, and continued through its whole course, in one out of every eight patients: and in one case only in every 28 was it wholly wanting. It depends most commonly, if not always, upon scrofulous ulceration in the small intestines and in the colon. In Louis' experience, there were, invariably, *large* ulcers, whenever the diarrhoea had been chronic and abiding, and the stools had been numerous. In the small intestines the ulceration evidently commences in the mucous follicles; the glandulæ solitariae, or the glandulæ agminatae: and sometimes, though not often, the ulcer perforates the bowel. It is probable that in the large intestine ulceration begins in the same way, by the deposit of tubercular matter (which is subsequently removed) in the solitary glands: but when once begun the ulcerating process extends itself indefinitely to the surrounding mucous membrane.

I should have stated before that, with this disease of the intestinal canal, there is often found enlargement of the corresponding glands of the mesentery, which are frequently filled also with tubercular matter.

Several of the symptoms that I have been mentioning—the state of the digestive organs, which interferes with the due assimilation of the food; the drain implied in the profuse sweats, and in the habitual diarrhoea—conduce to cause another constant accompaniment of phthisis: and that is *emaciation*. You know that the wasting in this complaint, when it is not cut short by some accidental complication before it has reached what may be called its natural termination, is extreme. It often is one of the earliest, as it is one of the most alarming, of the symptoms which the patient presents: and it frequently becomes excessive before any perspiration or purging have taken place to account for it. If, without any apparent cause, a person grows thin and weak, and his pulse is quick, and his breath at all short—these are intimations which seldom prove unfaithful, that tubercular disease is at work in the lungs, and in the abdomen.

Edema of the ankles, and even some puffiness of the hands and face, are circumstances which seldom fail to appear in pul-

monary consumption: but they are among the latest of the symptoms. *Edema* does not tell us what the disease is in such cases. We have been satisfied as to that some time before. But (unless there is some marked disease of the heart) it tells us that the disease is about to terminate. It is worth attention as a prognostic symptom merely.

And the same may be said of aphthæ. This is one of the last of the symptoms: but it does not always occur at all. I have lately described this morbid condition of the mucous membrane of the mouth and tongue, and have nothing more to say of it at present. It has the same relation to phthisis as to other chronic disorders; it marks, for the most part, the approach of their fatal termination.

It is always interesting to couple changes of structure with their appropriate signs. I will therefore take this opportunity of telling you what Louis has observed of this relation, in respect to the larynx and wind-pipe.

Ulceration of the epiglottis was often latent; gave no appreciable signal of its existence. The symptoms that belong to it are, a raw, or pricking, or burning sensation at the upper part of the thyreoid cartilage, with occasional dysphagia, and the rejection of liquids through the nose, while the tonsils and pharynx present no visible alteration.

Ulceration of the interior of the larynx is marked, when slight, by trivial pain in that part, and some variation from the natural voice; when deep, by severer pain, and abiding aphonia.

Ulceration of the trachea is seldom revealed by any symptom. And this is worth remembering; for patients are continually persuaded by medical men who know no better, that their symptoms are all *tracheal*.

There are still a few other circumstances which, when they occur, accumulate conviction as to the nature of the disorder. The catamenia are suspended in women: and the hair falls off. There are certain physical peculiarities too which are strongly indicative of a tendency to consumption; or perhaps I should say of the scrofulous diathesis. Largeness of the pupil, and a sluggish iris; in other words, a not very sensible retina, constitute one of these. A clubbed state of the ends of the fingers, with convex and adunque nails, forms another. Yet this last is not peculiar to tubercular consumption. I have heard of one case in which it was strongly marked: the patient died after a long illness—chronic puriform discharge from the pleura after paracentesis thoracis: but there were no tubercles.

KING'S COLLEGE HOSPITAL.

EFFECTS OF LEAD: COLIC, PALSY, EPILEPSY.

CLINICAL REMARKS BY DR. BUDD.

BENJAMIN TIBBOTS, æt. 40, has been employed as house-painter the last five years; but previously to this was a common sailor. His habits have been very intemperate, and he has often had the "horrors."

States that while a sailor his health was very good, with the exception of an occasional attack of "horrors;" but that since he took up the trade of painter, it has been very indifferent. He has suffered much from colic, and from pain in the limbs attended with violent cramps. Has been laid up with colic every year.

About three months ago his hands became weak, and for the last ten days the extensor muscles have been almost completely palsied.

The bowels have been much constipated, and he has had almost constant colicky pains for the last month.

The preceding notes were taken on the 7th of October, the time of his admission into King's College Hospital.

He was then suffering very severely from colic, and there had been no evacuation from the bowels for four days. He complained of some tenderness, on pressure, about the umbilicus.

The pulse was 66, regular; the skin cool; the tongue slightly furred.

There was a very distinct blue line along the edge of the gums, and a blackish stain on the teeth. Wrist-drop of both hands, but the right hand more powerless than the left.

The physician's assistant ordered $\frac{1}{4}$ of a drop of Croton oil every four hours, and hot fomentations to the belly.

He took six pills without effect, and the next day Dr. Budd ordered \mathfrak{zj} . of salts in compound infusion of senna to be given at once, and to be repeated at the end of two hours.

This operated in the evening and during the night, as many as 15 times.

The following day, the 9th, the abdomen was easier, but he still complained of some degree of colic. Had not slept during the night, was very weak, and the tongue was tremulous.

\mathcal{R} Liq. Opii Sedativ. \mathfrak{mxxv} . statim.

10th.—Bowels have not moved since taking the opiate. Complains of severe pain in the abdomen and back.

\mathcal{R} Magnes. Sulphat. \mathfrak{zij} .: Acid. Sulph. dilut. \mathfrak{mxx} .; Aq. Mentli. Pip. f. \mathfrak{ziss} .; ter die.

Morphiæ Muriatis, gr. $\frac{1}{3}$, nocte.

At 5, A.M., on the 11th, he had a fit of epilepsy, in which he struggled a good deal, and foamed at the mouth. At 8, A.M., he had another fit of the same character, and another at $\frac{1}{2}$ past 10. At 11, A.M., he died.

He was seen by the physician's assistant in the evening of the 10th, and in the morning of the 11th. He was, on both occasions, rational, but appeared drowsy and indisposed to answer questions.

It appears, from the statements of the nurses, that he was rational to the last.

Post-mortem examination, five hours after death.

Head: The brain and its membranes were pale, and appeared perfectly healthy, except at the lower surface of the right hemisphere. At the anterior and outer part of the lower surface of this hemisphere, immediately behind the fissure, was a spot as large as a half-crown and of a rusty colour, in which there seemed to have been absorption of the cortical substance, the membranes and vessels being left. The absorption was very nearly, if not entirely, limited to the cortical substance. The disease seemed of old date, and the contiguous cerebral substance had its natural firmness and texture. There was a red dotting on the dura mater opposite this spot, but no unnatural adhesions.

Chest: The lungs healthy. The heart of natural size, and presenting, in a striking degree, the appearance of concentric hypertrophy (Rigor Mortis).

Abdomen: On opening the abdomen, it was found filled with the large intestine, which was enormously distended. The distension commenced at the cæcum and continued to the descending portion of the colon, which, for a length of 10 or 12 inches, was contracted to the size of the thumb. Beyond this, in the sigmoid flexure, the intestine was again enormously distended. The mucous membrane was of a greyish tint, and the follicles were very conspicuous. There was no softening of the membrane: no unusual vascularity, but rather the reverse, except in the cæcum, where the mucous membrane presented some redness.

The lower part of the ileum was contracted; the jejunum, in a considerable state of distension. The mucous membrane of the small intestine, pale and healthy throughout.

Liver pale, but of natural consistence; kidneys pale, but apparently healthy; urine in the bladder, high-coloured, acid. The extensor muscles of the wrist, the muscular fibres of the colon, and the cerebral substance, were examined under the microscope by Mr. Bowman, at Dr. Budd's request,

but nothing unusual was discovered, except that the extensor muscles, like palsied muscles in general, were more easily separable into their component parts than in the healthy state. The extensor muscles of the right arm were more wasted than those of the left.

Portions of the brain and of the palsied muscles were also sent to the laboratory of the College, and were carefully analyzed by Mr. Miller. He detected lead in both, but it seemed to be in greatest quantity in the muscles.

REMARKS.—Dr. Budd observed:—The case of Tibbotts is interesting, as showing many of the most serious effects of the introduction of lead into the system, namely, colic; pains in the limbs, attended with cramp; paralysis; epilepsy.

1. Colic is more frequently brought under our notice, than any other of the effects of lead. Its chief symptoms are obstinate constipation, and griping pains about the umbilicus, generally relieved by pressure. If the constipation be not overcome at the end of some days, in addition to the former symptoms, there are the usual symptoms of obstruction in the bowels—nausea, vomiting, hiccough.

The patient is free from fever, and the pulse is generally slower than natural.

Lead colic very rarely proves fatal, so that we seldom have an opportunity of examining the state of the intestines after death. In Tibbotts, the most striking circumstance was the enormous distension of great part of the large intestine. This was probably the result of loss of power of the muscular fibres. Distension of the intestine is not usual in lead colic, at least at the commencement, for the abdomen is generally hard and retracted.

It would seem that the affection has two stages: 1st, that of increased contractility, leading to cramps, attended with violent pain; 2d, that of paralysis.

M. Tanquerel states, that if the finger be introduced high into the rectum, it becomes grasped by the intestine with extraordinary firmness, when the paroxysm of colic comes on; and that some degree of relaxation follows, when the spasm ceases.

It seems likely that both stages may exist at once, in different lengths of the intestine. Both conditions tend alike to cause obstruction, and, acting concurrently, must have great effect.

Dissection shows that this colic does not depend on inflammation. In the case of Tibbotts, the mucous membrane of the large intestine was neither ulcerated nor softened; and, except in the cæcum, which presented some redness, it was, if any thing, paler than natural. The absence of fever in lead colic,

and the efficacy of drastic purgatives, also prove that the complaint is not of an inflammatory nature.

In Tibbotts, the mucous membrane of the large intestine was of a greyish tint. This was also observed in some fatal cases of lead colic, recorded by M. Andral, and probably depends, like the blue line round the edge of the gums, on the presence of sulphuret of lead.

In lead colic, the pain is generally relieved by pressure. This, however, is not invariably the case. It not unfrequently occurs, as happened in Tibbotts, that the pain, instead of being alleviated, is rather increased by pressing on the belly. Increase of pain on pressure, in these cases, is no proof of inflammation. It may depend on displacement of intestinal gases, causing a fresh accession of spasm.

2. Another very common effect of the introduction of lead, is pain in the limbs (generally in the legs), attended with cramp. Tibbotts seems to have suffered very much from this.

In such cases, the pain does not follow the course of the nerves, and there is no redness or swelling in the painful parts. The pain is of the same character as the pain in colic. It is liable to exacerbations, and relieved by pressure.

Formerly, the pains in the legs were considered *sympathetic* of irritation of the intestines. But this opinion is evidently erroneous, as painters are often tormented by such pains and cramps, when they have no symptoms of colic. The pains depend, no doubt, on the actual presence of lead in the painful parts.

3. A third effect of lead observed in Tibbotts, was paralysis of the extensor muscles of the hands, or *wrist-drop*.

The palsy, in such cases, is owing to the local action of lead in the palsied parts, and not to any change in the central organs of the nervous system. The arguments in support of this are, that there is often no evidence whatever of cerebral disorder when the paralysis comes on; and that the limitation of the paralysis is such as cannot, or does not, occur, from affection of the central organs. Besides, the local action of the poison, as demonstrated by analysis, is a sufficient cause for the palsy.

Unlike the pains, the paralysis affects the arms chiefly. The most common paralytic affection in painters, is *wrist-drop*. Various other parts, however, may become palsied by lead. Many instances have been met with in which there was loss of voice, from paralysis of the muscles of the larynx; or amaurosis, from paralysis of the retina; and a few cases have been recorded in which there was paralysis of the intercostal muscles, causing death by suffocation.

In the palsied muscles of Tibbotts, Mr. Miller readily detected the presence of lead, but no evidence of it was obtained by the microscope. In such investigations, chemical analysis is often much more subtle and deep-searching than the microscope. It can detect the presence of matter whose particles are too minute to be an object of sight. But the microscope has this advantage, that it separates and distinguishes the different tissues, so that when the foreign matter can be seen, we ascertain, by the microscope, the particular tissues—whether nerve, muscular fibre, cellular tissue, or epithelium—with which it is combined. Information of this kind can never be obtained by chemical analysis.

4. The fourth and last effect of poisoning by lead, witnessed in Tibbotts, were fits of an epileptic character, speedily terminating in death.

These traces of former disease in the brain may, at first view, render it doubtful whether the fits were really owing to the presence of lead. But these doubts will be removed by the following considerations:—

1. That the disease of the brain was evidently of long standing, and did not present any character of active process in its seat and neighbourhood: while the epileptic fits occurred only a few hours before death. It was ascertained from his brother, with whom Tibbotts had worked for the last five years, that he was never known to have an epileptic fit before his admission to the hospital.

2. That lesions exactly like that which existed at the base of the brain in Tibbotts, when affecting the surface only, are often found in persons who have had no symptoms whatever—recent symptoms at any rate—of cerebral disorder.

3. That epilepsy is one of the most common effects of lead poisoning, terminating fatally; and that the presence of lead was, in this case, actually detected in the brain.

4. That the epileptic attacks were speedily followed by death. This commonly happens when epileptic attacks are induced by lead; but it does not happen, without fresh inflammation or softening, when epilepsy depends on an old disease of the brain.

These considerations leave no doubt whatever, that, in Tibbotts, the epileptic fits were the effect of the lead.

What was the immediate cause of the fits? Up to the evening of the 10th, he presented the ordinary symptoms of lead colic, and was not considered in danger. Was not the occurrence of the fits favoured by the weakness and exhaustion consequent on over-purging?

Epilepsy is the most common form of cerebral disorder produced by the poison of

lead; but occasionally delirium, like that produced by drinking, and, in other cases, drowsiness passing into complete coma, are brought on by the same cause. This is interesting, as showing what a great variety of effects, dependent on the same structure, may result from the action of a single physical cause. This is peculiarly the case in disorders of the nervous system, and depends, in great measure, on the very great variety in its functions; admitting equal variety in its modes of reaction to given influences.

The cerebral symptoms from lead-poisoning are quite independent of the abdominal. Epilepsy from lead sometimes occurs without colic. And the former symptoms, like the latter, are perfectly independent of inflammation.

In Tibbotts there was not the slightest evidence of congestion or increased vascularity in the brain, which was, indeed, rather pale than otherwise. This is very generally the case in persons who have died of epilepsy from lead-poisoning.

Dr. Budd remarked, I am anxious to draw your attention to this fact, because it is still too much the fashion to attribute all serious disorders to the nervous system, and especially such as are manifested by increased nervous energy—as epilepsy, and other forms of convulsion—indiscriminately, to vascular congestion or inflammatory excitement. This is a very narrow view, and leads to serious practical errors. For the idea of congestion or inflammatory excitement once adopted, and bleeding follows as a matter of course. It has been freely employed in epilepsy from lead, and apparently with the worst results. This is easily conceived when the pale state of the brain is considered. Indeed, under a just view of the pathology of the case, one does not see what good object can be rationally expected from bleeding. The symptoms depend on the direct specific action of the poison applied to the tissue; and this quite independently of any concomitant vascular change.

The presence of lead in the brain in Tibbotts was readily detected by chemical analysis; but Mr. Bowman could obtain no evidence of it by his microscope.

In two cases observed by MM. Devergie and Guibourt, in which lead was detected in the brain, the white matter of the organ, examined under the microscope by M. Gluck, was said to be remarkably altered in its minute structure.

“In many parts of the white matter of the brain, not only at the surface, but also in the interior, the tubes discovered by Ehrenberg appeared as if shrunk up in other points these tubes were well preserved.” M. Gluck remarks, that the alteration could not be attributed to putrefaction, because

the spinal marrow, though more softened, had retained its structure.

I do not know what confidence is to be attached to these observations. Their value must depend on the quality of M. Gluck's microscope, and on his skill as an observer. Certainly great discredit is thrown upon them by Mr. Bowman's failing to discover any similar changes in the brain of Tibbotts, and by the statement of M. Gluck himself, that the brains he examined were so altered in some parts and not in others.

There are many circumstances extremely interesting in the pathology of this disease.

1. We have proof that the lead, conveyed by the circulation to the different organs of the body, produces a variety of symptoms—colic, pains, cramps, paralysis, epilepsy—quite independently of any inflammation.

2. Like many other contaminations of the blood, the lead affects the two sides of the body *symmetrically*. The painter has pains and cramps in both legs; wrist-drop of both hands.

3. The symptoms produced by lead are lasting. Constipation and colic, when removed by purgatives, have a great tendency to recur; and wrist-drop may continue for weeks or months after the painter has quitted his vocation. The reason of this is, that the poison remains in the system. The poisonous preparations of lead do not pass off, or they pass off very sparingly, in the secretions. The lead has not been found in the urine.

In this respect the poisonous preparations of lead offer a striking contrast with iodide of potassium. Iodide of potassium, when it accumulates in the blood, produces sneezing, watering of the eyes, headache, and a variety of other distressing symptoms; but it passes off readily in the urine and other secretions, and at the end of two days, if no more of the medicine be given, the system is freed from its presence, and the symptoms it excited have vanished. The poison of lead, on the contrary, remains in the system, and its effects are consequently lasting.

Most of the salts of lead are poisonous. The most poisonous are the protoxide (litharge); the deutoxide (red lead); and the carbonate (white lead).

The acetate of lead used to be considered very poisonous. Recent observations, however, seem to show that it is not so; and that the poisonous effects that have sometimes followed the administration of it, even in small doses, resulted from decomposition of the acetate, and the consequent formation of a more poisonous salt. To prevent this decomposition, Dr. Christison recommends that a small quantity of acetic acid should always be given in conjunction with acetate of lead.

It appears from a case published in the "Archives Générales," and quoted in the British and Foreign Medical Review for July, that the acetate of lead passes off in the urine.

"A young girl, of good constitution, driven by despair to suicide, took about an ounce of acetate of lead in solution. She was almost immediately seized with collapse and syncope, and afterwards with vomiting and convulsion. Sugared water, sulphate of magnesia and of soda, were given, but she died in 25 hours. She voided a large quantity of urine, which M. Villeneuve sent to Orfila. Carbonized, treated with nitric acid, and submitted to the tests of the salts of lead, this urine afforded a sensible quantity of lead."

The fact, if it should be established, that the acetate passes off in the urine more readily than other salts of lead, would be sufficient to account for its being less poisonous.

M. Orfila has proved that sulphate of lead is quite inert; and that sulphate of magnesia, or any soluble sulphate, is an antidote to a poisonous dose of lead.

In consequence of this discovery, M. Rayer some years ago recommended a solution of sulphuretted hydrogen in lead-colic; and M. Andral, and other French physicians, gave their patients sulphuric acid, in the hope that it might combine with the lead, and form the harmless sulphate. These experiments, however, were not successful; and physicians are now agreed that lead-colic is best treated by powerful purgatives, combined or alternated with opiates; and by warm fomentations to the belly. Treated in this way it is attended with very little danger; and when the constipation is overcome the pain is almost always relieved. The purgatives must be continued for some time, because, from the lead remaining in the system, the constipation and colic are apt to recur.

The best treatment for the pains in the limbs seems to be the frequent use of the sulphur bath; for the palsy, the sulphur bath, together with electricity or strychnine, to keep up the action, and consequent nutrition, of the muscles.

It is stated by M. Liebig, in his recent work on Organic Chemistry, that sulphuric acid lemonade—a solution of sugar rendered acid by sulphuric acid—is a preservative from the injurious effects of lead; and that colic is entirely unknown in all manufactories of white lead in which the workmen are accustomed to drink it.

ON THE SEAT AND NATURE OF FAVUS.

BY JOHN E. ERICHSEN, ESQ.

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Hospital.

(*For the Medical Gazette.*)

THE seat of favus has been a fertile field for discussion amongst writers on the diseases of the skin; and, owing to the minuteness of the parts concerned, and the imperfect way in which their anatomy had, until lately, been described, considerable confusion has crept into most of the attempts made to determine it.

Duncan supposed that the bulb of the hair was the seat of this disease. Underwood imagined that it was seated in the "small glands at the roots of the hairs;" probably meaning thereby the sebaceous glands. This opinion coincides with that of Sauvages and of Murray, both of whom looked upon the sebaceous glands as the seat of favus. More lately Mahon has revived this theory; he has dwelt upon it at great length, and has brought forward many ingenious arguments in its support. He, however, seems to have had some confused notions about the anatomy of the part concerned, as he evidently looks upon the sebaceous glands and the hair follicles as being identical; for he says that every hair passes obliquely out of the orifice of the gland or follicle, and that, occasionally, two hairs pass through the same opening. He supposes that, in consequence of a degree of inflammation taking place at the orifice of the follicle, the sebaceous matter is either prevented from escaping, or else, losing its natural fluidity, it cannot be poured out. The secretion of it however continuing, and all outlet being prevented, the walls of the follicle become distended, and a small tubercle forms, which must, from its seat, necessarily be circular, and presents the characteristic central depression, which is nothing but the orifice of the follicle made apparent. The follicle giving way in consequence of its over distension, the favous matter is effused upon the scalp, and gradually increases in quantity by successive additions from below: this goes on until the destruction of the hair-bulb is completed, when the follicle and its cavities

being totally destroyed, the disease wears itself out and disappears. Mahon considers favous matter to be merely an altered state of the sebaceous secretion.

According to Gallot, favus is seated in the "reticular tissue" of the scalp, which, he says, is an interlacement of small vessels containing different fluids and ramifying on the surface of the chorion.

Cooke looks upon the secreting capsule of the hair as the seat of this disease, but his description of it is very confused.

Baudelocque (I quote from Rayer, as I have not been able to procure the journal in which his observations are contained) supposes, from the frequency of the occurrence of favus in those parts of the body where hair abounds, especially the scalp, and from the presence of hairs in each crust, that this disease has its seat in the "piliferous bulbs." The favous matter, according to him, is poured out into the cavity of the follicle; this it gradually distends, and thus extends into its neck, whence, however, it is prevented from escaping by a reflection of the epidermis: it then dries into a scab of a conical form, which, becoming broader by degrees, is changed into a cylindrical body, and then into a slightly convex crust, in proportion as the orifice, by being enlarged, and everted as it were, approaches to the bottom of the follicle, which it thus converts into a superficial excavation.

According to this author the central depression arises—

"Firstly, from the presence of a central cylindrical nucleus, confined by the cuticle, with which it is connected exteriorly in such a way as not to be capable of being elevated.

Secondly, the forcible distension of the favous secretion in the space around the central nucleus, the sides of the follicle and the epidermis.

Lastly, a gradual elevation of the detached epidermis, and consequent increase of height in the interval within which the favous fluid is confined."

In order to support this theory, M. Baudelocque has assumed, what is by no means proved, and what is contrary to the opinion of most anatomists, namely, that the epidermis, instead of penetrating into the interior of the hair follicle as far as the bulb, is re-

flected upon the hair near the orifice of the follicle. Lauth, on the other hand, states that the continuation of the epidermis into the follicles, as far as the bulb of the hair, is very distinct; and the preparations left by Hunter show that the internal sheath, which is continuous with the cuticle, lines the follicle as far as the point of attachment of the bulb of the hair*.

Rayer adopts Baudelocque's theory, with the modification that the favous matter is deposited between the hair and that portion of the cuticle reflected into the hair follicle, and not, as Baudelocque supposed, *under* the cuticle. After a time, however, according to Rayer, it penetrates the cuticle, and becomes effused between it and the cutis, around the orifice of the follicle. He says, further, that, from the presence of hairs in these collections, from their seat, their form, and their size, he is induced to believe that the favous matter is deposited in the "dilated cavities of the cuticular conduits of the hairs." At the same time, he says, that the very slender and finely-tapering form of the deep extremities of the deposits leads him to suppose that the greatest quantity of the matter is deposited in the substance of the skin and of the cellular membrane, and is not contained in the proper cavity of the hair-follicle.

I agree fully in the main with Rayer; and I think there can be no doubt in the mind of any one who has observed this disease attentively, that the favous matter is deposited *within* the follicle, but *upon* the cuticle lining it. The following is, I think, the correct explanation of the mode of formation of the crust:—A drop of favous matter is effused within the follicle; this concretes round the neck of the hair, and fixes it firmly to the opposite cuticle, thus blocking up the orifice of the follicle. Fresh matter being then poured out, its cavity becomes distended, by which means the cutis surrounding it is pushed back, thus giving rise to those painful sensations which are so common in this disease, and which are, no doubt, produced by the pressure of the concrete favous matter upon the cutis, and by the traction that it must necessarily, as it increases, exert upon the hair. The first deposit of favus being thus firmly connected to the hair, and

all subsequent additions being incorporated with this, the scabs, as they enlarge and rise, as it were, by a gradual increase from below, must draw the hairs up very forcibly, which are thus loosened from the bulb, and at last fall off. At the same time the downward pressure that must be exerted upon the bulb, causes, if sufficiently long continued, atrophy, and at last ulcerative absorption of this organ; thus giving rise to that incurable baldness which is so common a feature of this disease.

The depression in the crust is, I think, produced by a central nucleus of hardened favous matter, which is firmly connected to the hair, so as not to be capable of being raised, whilst at the same time it plugs up the orifice of the follicle; the favous secretion being then poured into, and detained in the space between this central nucleus, the sides of the follicle, and the portion of the scab that blocks up the orifice of it, a forcible pressure is exerted upwards and outwards, thus forming a crust, which has its margin more elevated than the centre, which is confined by the hair to the bottom of the follicle, and is thus tied down, as it were, being unable to rise with the rest of it, until the hair falls out, when the central depression becomes more or less effaced; and in *favus confertus*, in which the hairs fall out very readily and early it is frequently absent. It will then be seen that the chief point of difference between my explanation of the seat of favus and that of Baudelocque is, that I consider the matter to be deposited *upon* the cuticle lining the hair follicle; he, on the contrary, assumes that this cuticle being reflected from the summit of the follicle upon the hair, the favous matter is effused beneath it—an assumption that anatomy does not warrant.

No evidence whatever is brought forward in support of the theory of this disease being seated in the hair-bulbs, which appears to be a mere hypothesis. As to the supposition that it is seated in the sebaceous glands, this opinion will be inquired into when I treat of the nature of this disease. We may, therefore, conclude with Rayer, that the favous matter is deposited in "the dilated cavities of the cuticular conduits of the hair;" in other words, within the hair-follicles, but *upon* the cuticle lining them.

* Müller's Physiology, by Baly, vol. i. p. 388.

Nature of favus.—Various opinions as to the nature of this disease, as to what favous matter really is, have been entertained at different times, and by different persons. By far the greater number of writers on the diseases of the skin, amongst whom I may mention Willan and Bateman, Biett, Rayer, Thomson, Cazenave and Schedel, and Green, group it under the head of pustular diseases. Mahon considers it to be a morbid secretion of the sebaceous follicles; and others suppose it to be of a parasitical nature, resembling the lichens that grow upon old walls, and on certain plants, or those vegetable productions which appear in some fermented liquids. I hope to be able to shew that all these opinions are incorrect, and that the matter of favus is a modification of tubercle—that it is a tubercular disease of the skin. By *tubercular* I do not mean a disease, like lupus, characterized by small firm tumors, but a disease the essential nature of which consists in the deposition of that heterologous formation called *tubercle*.

And, first, as to the pustular nature of favus. A pustule may be best defined in the words of Biett, who says, that it is a small circumscribed tumor formed by the effusion of a purulent fluid on the surface of, or within the cutis, and raising up the cuticle. Now if this definition be conceded, and it is in substance that which is adopted by all modern writers on the skin, it will be seen that it does not in any way agree with the elementary form of favus. For in this disease the morbid matter is not poured out *between* the cutis and cuticle, or *within* the substance of the former, but it is deposited *upon* the surface of the prolongation of the epidermis which lines the hair-follicle, and it would be effused at once upon the surface of the scalp were it not confined by the constricted neck of the follicle. It is the tumor that is thus formed by the distended follicle that has been taken for a pustule, and that has erroneously been supposed to arise from a collection of favous matter between the cutis and the cuticle, whereas it is produced by the presence of this matter upon the cuticle, but within the follicle, the walls of which, by confining it, cause it to assume somewhat the appearance of a pustule.

Besides this there is another charac-

ter in which this disease differs more remarkably from pustule. The favous tubercle frequently exists for a length of time in the substance of the skin before it arrives at maturity, remaining, as it were, dormant, by the pressure which the fully formed crusts exert upon it.

In the post-mortem examination of cases of favus, it is usually found that on the inner aspect of the scalp there are a number of small yellowish white solid deposits, which are perfectly identical with those that compose the external scabs (*Rayer*). These deposits are confined and prevented from attaining a larger size by the pressure of the already existing crust; but when this is removed by poulticing, or other means, a number of them will, in many cases, be seen on the exposed surface, where, by increasing in size and coalescing, they will quickly form a fresh coating of scab.

Now this is never the case with pustular diseases. I am not acquainted with any example of a pustule existing in an undeveloped or dormant state for any length of time; for when it has once formed it runs a certain course, which is usually completed in a few days.

But this disease differs from pustule fully as much in the nature and qualities of the fluid effused as it does in its anatomical characters.

Pus is a homogeneous yellow fluid, which, although it may quickly dry and form scabs when exposed to the air, yet until it is so exposed it always remains fluid—it solidifies, in fact, because the watery parts evaporate, leaving the solid residue behind; a true process of desiccation. This, however, is very different from what takes place with favous matter, which, almost from the very first, at all events whilst it is yet contained within the follicle and before it has been exposed to the air, will be found to have become solid. No doubt it is first deposited in a fluid state, as we cannot suppose a solid to be secreted from the blood-vessels as such: but I believe that fluid favous matter has very rarely, if ever, been seen, as it solidifies before it leaves the follicle, and appears from the first in a concrete form. It is true that the crusts on a head affected with Favus Confertus (*Porrigio Scutulata*) are often found to be moistened with an ichorous

pus ; but this, which is merely produced by the irritation set up in the scalp, and is frequently secreted from the small ulcers that form in chronic cases of this disease, is entirely distinct from, and must not be confounded with, true favous matter, which can be best examined in heads affected with Favus Dispertus (Porrigo Lupinosa).

Favous matter does not, therefore, like pus, solidify merely because it is exposed to the air, drying like any other fluid might ; but it appears from its constitution to become solid almost at the moment of its formation, or at all events very shortly after. In its chemical composition also favous differs very materially from purulent matter, as it contains a much larger proportion of earthy salts. The following is its analysis by Thénard:—

Phosphate of lime	5
Gelatine	17
Coagulated albumen	70
Water and loss	8
	—
	100

Andral states that Schwilgué found pus to be composed of albumen in a peculiar state, extractive and fatty matters, with a small quantity of soda, muriate of soda, phosphate of lime, with other salts, and water.

Favus, then, differs from pustular diseases both in its elementary form and in the qualities of the matter secreted. As to the elementary form, it differs from pustule—

1st. In the favous matter being poured out upon a free surface, and not upon or within the cutis and under the cuticle, as is always the case with the fluid contained in a pustule.

2d. The favous tubercle is frequently chronic, existing in an imperfectly developed state for a length of time ; this is never the case with a pustule, which always runs its course in a given period, usually a few days.

And favous matter differs from pus, 1st. In concreting very quickly after it is poured out, even before exposure to the air ; whereas pus only dries after exposure, and does not solidify like favus in consequence of its composition.

2d. In its chemical constitution ; favous matter containing much more earthy matter and coagulated albumen than pus does.

It is more difficult to answer the question as to whether or not favus is a

morbid secretion of the sebaceous glands : it is difficult to disprove that it is so, but it is equally difficult to prove the assertion, which rests entirely upon negative evidence. The disease is, at all events, never seen in the sebaceous glands, but makes its first appearance in the hair follicles ; and whether the favous matter is secreted by their sides, or is poured out from the glands into the follicle, is a question that it will be impossible to answer satisfactorily. And in the absence of all proof to the contrary, we may fairly assume that it is thrown out by the lining membrane of the follicle, as it is first seen there ; and as it differs so remarkably from the sebaceous secretion in not containing any oily matter, there is little probability of its being merely a modified state of that fluid. No satisfactory evidence, it is certain, can be adduced, either directly or from analogy, in favour of the supposition of its being so.

With regard to the hypothesis that favus is a parasitical growth, a fungus or lichen, or that it resembles some of those vegetations which form in fermented fluids, both of which have been advanced at different times—the latter one indeed within the last few months, in a paper read at the Academy of Medicine in Paris, by M. Gruby—we may state that no proof beyond mere outward resemblance has been advanced in their support. All ideas of this sort seem founded merely upon the outward appearance, sufficiently strong certainly, which the cup-shaped crust of favus offers to lichens or vegetations of a similar description. But surely, before adopting an hypothesis so entirely at variance with all we know of pathology, as the growth of true vegetations in the human body—an hypothesis which has no analogy to support it—we must look for some more definite and satisfactory evidence than mere external resemblance.

The chemical composition of favus is another argument against the supposition of its being a vegetable production, no lichen or parasitical plant being composed of animal gelatine and coagulated albumen.

The question, however, as to what favus really is, remains as yet unanswered. I have shewn, I trust satisfactorily, that it is not a pustular disease, and that there is no proof of it being either a morbid secretion of the seba-

teous glands, or a parasitical fungus; and I hope to be able to prove that it is a tubercular affection—that favous matter is in reality a true tubercle of the skin.

It will be found that there are many strong points of resemblance between tubercle, as it occurs in other organs; and favus; that, in fact, the essential and distinctive characters of both are the same.

It has already been shewn that the seat of the favous deposit is the lining membrane of the hair-follicles. Tubercle may be deposited in any elementary tissue, although, as Dr. Carswell has fully proved in his very beautiful work on the Elementary Forms of Disease, its seat of election is the mucous and serous surfaces, including cellular tissue under the latter head. Now the analogy between skin and mucous membrane is very great; the former passes so readily and so constantly into the latter, when it is continued into hollow organs, or into any excretory duct, that we may safely conclude that the lining membrane of the hair-follicles partakes, in a great measure, of the characters of mucous tissue; that the epidermis on entering them becomes converted into a species of epithelium; and that, therefore, as we find the mucous surface of the bronchi, of the air-cells, of the intestinal glands, so frequently the seat of tubercular deposition, we are justified, by analogy, in supposing that the hair-follicles may be likewise affected. But even if it be denied that the lining membrane of these follicles partakes of the nature of mucous tissue, still there is no reason why tubercle should not be deposited on the skin, and that this, of all others, should be the only tissue exempt from this disease. So that although the seat of favus may be no argument in favour of its tubercular nature, yet it does not militate against this supposition.

The manner in which favous matter is deposited resembles more closely that in which tubercle is formed: they are both at first eliminated in a fluid state, but very quickly solidify, either in consequence of the watery part being absorbed, or from their composition.

The mode of growth, too, is the same in both, being by eccentric deposition, and not by any increase from within.

In form they also resemble one another; tubercle always having a

tendency to assume a round or ovoid shape: and this is remarkably the case with favus, which invariably assumes a circular form: in fact this is one of its characteristic distinctions.

The colour of favus resembles that of tubercle, being usually of a yellowish opaque white, with a tinge frequently of grey. Even the sulphur yellow colour which the crusts of favus dispersus (*porrigo lupinosa*) occasionally present, has its analogy in tubercle in other organs; for Lugol states that he has found tubercular deposit of a bright yellow along the course of the large vessels.

In chemical composition the similarity between tubercle and favus is very great, both being composed of coagulated albumen, gelatine, and earthy salts in considerable quantity, the proportion of the latter being, however, larger in favus than it is in tubercle.

The causes of favus are also such as dispose and give rise to tubercle in other organs. Like tubercle it is an hereditary disease, and arises frequently from misery, bad living, and neglect of the non-naturals; and it is particularly liable to occur in persons of a scrofulous habit of body; in fact, in those who are most liable to the occurrence of tubercle in other organs. There can be no doubt to any one in the habit of seeing cases of favus, that the scrofulous diathesis is the most frequent predisposing cause to this disease; the majority of those affected by it being of a decidedly scrofulous habit of body. The exceptions will generally be found in those cases that have arisen from contagion.

The age at which favus usually manifests itself is also one at which scrofulous or tubercular diseases are peculiarly liable to occur; namely, the end of the first and beginning of the second septennary period of life.

The colour of the cicatrices that are left after the cure of old-standing cases of favus is the same as that which is so universally seen after the cure of a scrofulous ulcer, the skin presenting a peculiar coppery violet or purple tinge, which remains for a considerable length of time.

In recapitulation, then, tubercle and favus agree, in their seat, in the manner of their formation, in the mode of growth, in form, in colour, in chemical composition, in most of the causes that

predispose to or excite them, in the age at which they most frequently occur, and in the colour of the cicatrices that are left.

It will thus, I think, be seen that the points of resemblance between tubercle, as it affects other organs, and favus, are sufficiently strongly marked to warrant us in concluding that the latter is but a peculiar local variety of the former disease, the distinctive and essential characters being the same, although, from its seat and mode of formation, it may differ in some of the less important respects.

CONTRACTION OF THE HAMSTRING MUSCLES.

To the Editor of the Medical Gazette.

SIR,

THE perusal of Mr. Coulson's paper of last week has brought to my recollection an interesting case of contraction of the hamstring muscles, on which I operated during the month of February last.

The particulars of this case were related to Mr. Coulson at the time of the operation, who, in fact, was present on the occasion of my dividing the tendo Achillis in the same patient.

As there are one or two points connected with the case, which render it useful as far as the operation is concerned, it may not be unacceptable to your readers.

Mrs. M., æt. 36, of short stature, and pitted with the small-pox, applied to me on account of a deformity of the left lower extremity, with which she had been affected four-and-thirty years. She stated that, when two years old, she was attacked with small-pox, subsequent to which symptoms of weakness in the muscles of the left leg became apparent. For this she underwent a variety of treatment, and deriving no benefit, she was placed under the care of Sir William Blizard, who recommended electricity to be employed daily. This was continued for three months without success. An unequal power of the antagonising muscles now developed itself, and a gradual contraction of the flexor muscles took place. For this no plan of treatment was instituted, and no further notice was taken of the case until she applied to me in December last.

On examining the limb, I found the heel raised full four inches, the natural angle of the tarsal articulation being totally destroyed; and when an attempt was made to place the foot on the ground, the phalanges of the toes alone rested on it; the knee was contracted at about an angle of ninety degrees; the patella perfectly free in its movements; and the leg capable both of flexion and distension within the angle named. She has never suffered from pain or uneasiness about the joint, and when rapid extension was made, it did not convey that sudden jerk to the hand that is felt in bony ankylosis. The thigh was also semi-flexed on the pelvis.

Having made a measurement of the affected limb, from the trochanter major to the external condyle of the femur, and from thence to the external malleolus, it was found to be of the same length as its fellow, and this circumstance, coupled with the absence of all appearance of bony ankylosis, pointed it out as a very eligible case for operation.

Two circumstances alone were opposed to a perfect restoration of the limb, viz. a defective action of the extensor muscles, and the existing contraction about the hip.

The patient being inoculated with the prevailing mania, was desirous, at all hazards, that something should be done to relieve her deformity.

On the second of December last, in the presence of Messrs. Coulson, Gay, and White, I divided the tendo Achillis. The wound having healed, and a sufficient time allowed to elapse, the usual form of extension was employed, and in a month I had the gratification of seeing the foot resume its natural position. By a continued application of friction, a most perfect harmony has been established between the antagonizing muscles, although, as regards bulk, there is a considerable disparity in the two limbs.

From a consultation at the time it was not thought expedient to follow up the operation by a division of the hamstring tendons; a respite was therefore allowed the patient, in order to ascertain the results of the first division.

Three months elapsed before again presenting herself, when she stated that having already derived much benefit, she was anxious to undergo a second

operation. The foot still retained its normal position, and, much to her satisfaction, she was enabled to wear a boot; before her foot was wrapped only in flannel.

On the 26th of February, in the presence of Messrs. White and Gay, I effected a division of the biceps semitendinosus and semimembranosus muscles. The patient being placed in the prone position, Mr. White made extension of the leg, bringing the tendons of these muscles into view. Having passed a small knife first beneath the biceps, then the conjoined tendons of the semitendinosus muscles and semimembranosus muscles, I divided them from within outwards; each separated with an audible snap.

All resistance to extension was now removed, for with a trifling amount of force the leg could be freely extended on the thigh. Nothing was applied to the wounds but simple strapping, together with a roller, passing from the head of the tibia to above the joint. After a few days an apparatus was applied, constructed upon the principles of England's registered splint, and gradual extension made. Under this treatment the limb has become straight, and up to the present moment the powers of flexion and extension remain perfect*.

In consequence of her becoming *enceinte*, I was prevented from interfering with the contraction about the hip, which I rather suspect to depend in a great measure on the shortening of the rectus femoris; if such be the case, I should anticipate the most satisfactory results from a division of this muscle, as it appears to me to be the chief agent in opposing a perfect restoration of the limb.

This case, sir, I think interesting, as I am not aware there has been any publicly recorded in which an operation has been performed in one of long standing; it moreover tends to nullify a conviction which might be assumed by a perusal of Mr. Coulson's paper, viz. that in very protracted cases a division of the hamstring tendons would in all probability afford us but a trifling assistance in relieving these deformities, a much more potent ob-

stacle presenting itself in a contraction of the crucial ligaments.

It would be folly to deny the occasional existence of these contractions, the fact is too evident from Mr. Gray's dissection; but I am disposed to regard such an event as dependent only on fortuitous circumstances. If contraction of the crucial ligaments were the necessary consequence of a similar affection of the hamstring tendons, in no case would they be so marked as in those of some years' standing. The recital of the above case has, I trust, sufficiently proved that such is not a general result.

But it may be urged, in favour of this opinion, that contraction of these ligaments might have existed in the case under our present notice, which yielded to subsequent treatment. Had such been the case, the yielding would not have been so tacit, nor do I think extension will prove of any avail when these contractions have taken place. I am therefore disposed to regard Mr. Gray's case as one possessing peculiarities distinct from the general character of these deformities.

As regards the operation, it is simple only when applied to the conjoined tendons forming the inner hamstring. Some caution is requisite before dividing the tendon of the biceps, for should we introduce the knife too high up great risk will be incurred of cutting through the ischiatic nerve. We must be careful, moreover, to avoid the peroneal nerve, which runs along the inner border of the biceps muscle, and may be easily felt with the finger. This nerve, therefore, should be pressed aside, and the knife made to sweep around the inner edge of the tendon.

I am, sir,

Your obedient servant,

G. B. CHILDS.

Wood Street, Cheapside,
November 13, 1841.

AN
ANALYSIS OF THE PRESENTATIONS
WHICH OCCURRED IN 265 CASES
OF LABOUR.
BY JOSEPH BELL, Surgeon, Barrhead.
(For the London Medical Gazette.)

NOTES of the following cases were taken with a view to ascertain the relative frequency with which the an-

* Since the above operation I have attended her during her accouchement: the labour was natural and easy.

terior part of the head, at the commencement of labour, presented to the left groin. To learn also the proportionate number of such cases in which spontaneous rectification occurs; the face emerging at birth from the perineum, as if it had presented originally to right sacro-iliac synchondrosis.

Table of the different Presentations in 265 Cases.

Cranial, 260; breech, 3; feet, 1; placenta, 1.
Total 265.

Cranial Presentations.

Face presenting posteriorly	-	—	197
Face to right sacro-il. synch.			195
Face to left sacro-il. synch.	-		2
Face presenting anteriorly	-	—	63
Face to right acetab.	-	—	1
Born with face to pubes			1
Born with face to sacrum			0
Face to left acetab.	-	—	62
Born with face to pubes			4
Born with face to sacrum			58

It will be observed, that the results obtained by the analysis of these comparatively few cases are nearly similar to those which Naegele, Stoltz, and several other distinguished obstetricians, have drawn from their extensive experience and lengthened observations on the points at issue.

1st. In the 260 cases of cranial presentations contained in the above table, we find that the face presented posteriorly in the ratio of 197 to 63, or, 75·7 per cent. In these instances the face presented to the right sacro-iliac synchondrosis 98·9 per cent., and to the left 1·01 per cent. On the other hand, the face presented anteriorly in the proportion of 24·2 per cent., or, in one out of every four cases. In these 63 anterior-facial presentations, the face was towards the left groin 62 times, or, 98·4 per cent.

The relative frequency of the face presenting to left groin, in the above 260 cases, is below the proportion which has occurred in the practice of Naegele. This distinguished professor states, that out of 1210 cases, the face presented to left acetabulum 259 times, or at the rate of 39·6 per cent. Stoltz has found these presentations to occur somewhat above 20 per cent. Dr. Murphy, of Dublin, found them to be 9·4 out of every hundred of the cases which he investigated, with a view to establish the frequency of the occurrence.

2dly. We find that, in the 63 cases of anterior-facial presentations noticed in the table, the proportion in which spontaneous rectification took place during labour is 58 to 63, that is, the face at birth was directed to the pubes in the ratio only of 7·9 per cent.; whilst the occiput emerged from the same place in the proportion of 92·06 per cent., as if it had presented originally to the left acetabulum. This nearly amounts to the average frequency with which rectification has been found to occur by Naegele. He states that it took place in 93 out of every 96 cases, or 96·8 per cent.

Though this spontaneous turning of the head has been long known to many old accoucheurs, yet it seems to have been greatly overlooked by practitioners.

We are, indeed, indebted to Naegele for bringing the subject prominently before the profession at the present day.

3dly. The practical conclusions deducible from the foregoing facts and observations are of the most important character. In the first place, these facts prove that, in cases where the face presents to the left groin, the efforts of nature are sufficiently competent to accomplish delivery. 2dly. That interference is neither required to rectify the position of the head, nor to assist its birth. These conclusions are, however, directly opposed to the recommendations given by several of the most eminent obstetric writers.

Burns states, that when the face presents in the manner under consideration, if we see the case early we should rupture the membranes, and turn the face backwards; or, if the case be advanced, pressure with the fingers should be employed, as recommended by Drs. Smellie and J. Clarke.

Dr. Clarke affirms that, by this manipulation, he managed to turn the face backwards in 13 out of 14 cases.

Blundell has even recommended us, in such instances, to turn the child, and bring down the feet. Hamilton and others give similar instructions. Continental accoucheurs, of acknowledged ability, have recommended not only manual but instrumental assistance in such presentations.

M. Capuron makes the following statements regarding these cases:—"Nous avons toujours été obligé de terminer l'accouchement avec le forceps, lorsque

la tête de l'enfant et le bassin de la mère avaient leurs dimensions naturelles ou normales. Dans le cas, au contraire, où l'accouchement se terminait par les seules forces de la nature, le travail en était souvent très-long, ce qui entraînait quelquefois la mort de l'enfant ou la difformité de la tête; alors aussi le bassin était toujours plus large, ou l'enfant moins volumineux qu'à l'ordinaire, ou ces deux avantages se trouvaient réunis*." The same author, after stating that spontaneous rectification has been said by some accoucheurs to occur, observes, "Mais on ne conçoit guère que cet heureux changement puisse s'opérer de lui-même, ni a plus forte raison par le secours de l'art, lorsqu'il y a déjà longtemps que les eaux se sont écoulées, et que la matrice s'applique fortement sur le fœtus. Il faut convenir que cette réduction des positions occipito-postérieures aux positions occipito-antérieures, si elle était facile serait d'un avantage souvent inappréciable pour la femme et pour l'enfant†."

From the researches of Nægele, Stoltz, and others, not to speak of the evidence afforded by my observations, I think it is amply proved that such rectification takes place in almost every case, without even the slightest manual assistance.

Interference either with the hand, lever, or forceps, is no more necessary in such cases than in those where the occiput presents to the left acetabulum. No person, who is acquainted with the literature of his profession, requires to be told that unnecessary interference, during the process of parturition, has often led to the most injurious consequences—to results sometimes revolting to humanity. I humbly submit, if the directions given by the authors quoted, for the management of the cases under consideration, be not calculated in the hands of the ignorant, inexperienced, or rash persons, to produce the worst consequences both to mother and child.

I would make bold to affirm that uncalled for interference must, of necessity, prove injurious: I think that I will be fully borne out in the assertion by the records of obstetrics.

4thly. So far as my experience ex-

tends, neither tediousness nor difficulty are characteristics of anterior facial presentations. I have found these cases to terminate, without any assistance, not only favourably, but as quickly and easily as if the face had presented to the right sacro-iliac symphysis.

The average duration of labour in the 195 cases, in which the occiput presented to the left groin, I find from examining my notes to be seven hours and forty-two minutes. In the 58 cases of spontaneous turning, the average duration amounts to seven hours and fifty-nine minutes. The difference of duration is here so trifling as not to be worthy of a moment's consideration. In the five cases, even where the original position of the head remained unchanged, the face at birth emerging from under the pubic arch, the labour in three instances could not be called either painful or tedious. In two instances it was terminated within seven hours*; in the third, eight hours and a half; in the fourth case seventeen hours and a half, but in this instance the face presented to the right acetabulum. In the other case labour commenced at 4 o'clock P.M., and terminated at noon next day: the child was born alive. I question very much how far interference in this case was productive of delay. It was the first instance of anterior facial presentation which occurred in my practice. Being more familiar at the time with the mechanism and progress of labour of *text books* than with that which actually occurs in nature, I used pressure with the fingers, as recommended by Clarke, Burns, and others, without producing the slightest change on the presentation.

In concluding these hasty observa-

* Cours Théorique et Pratique d'Accouchement, p. 200. Paris, 1828.

† Id. p. 212.

* I quote one of these cases as an example. Mrs. M'C. (July 4th, 1841, 7 o'clock P.M.), a stout active woman, aged 31 years; fourth pregnancy; labour pains commenced at 4 o'clock P.M., but were not very severe until about an hour ago. On examination, the os uteri was found dilated about size of palm of hand, the membranes entire, occiput presenting to right sacro-iliac synchondrosis. Head beginning to descend into cavity of pelvis; pelvic passages of normal dimensions; pains continued good; at 10 o'clock waters came away; in half an hour afterwards, a female child, of ordinary size, was expelled with face towards pubes; the cord was twisted round neck; there was very little swelling of scalp; placenta came away immediately. She stated that her previous labours were fully more severe and longer in duration than the present; but as I did not attend her on these occasions, I cannot vouch for the accuracy of her statements.

tions I would remark, that I was first induced to take notes of the 265 cases referred to in this paper, owing to the frequency with which I found the face presented to the left acetabulum, and also, from the frequency with which spontaneous rectification took place, and the facility with which nature, when left to her own efforts, terminated the labour. I may also state, that in order to guard against any deception respecting the part of the head which presented, I kept my fingers in contact with the head during the whole progress of labour. (Naegele, I find, has adopted the same means in his investigations.)

In 22 cases of the 63, the waters came away early, and in these instances I marked the forehead as it presented towards the left acetabulum with a little resinous ointment coloured with vermilion. In 21 of these cases spontaneous turning took place,—the forehead, with the red mark on it, issuing from the perineum.

I hope that the publication of the limited number of cases which has occurred in my experience will cause others to devote a little attention to the matter, and induce them to trust to the adequate powers of nature in such instances. If the views advanced in this paper be found correct, I hold that it is the duty of every medical man to make the results of his observations known, in order to counteract the mischievous tendency of the rules for manual and instrumental interference, which are given in most of the standard works on midwifery. I would recommend to my readers a careful perusal of an able article on the subject under discussion in the British and Foreign Medical Review for the present month (October.) I am certain that a calm, attentive, and deliberate consideration will be given to the striking facts and profound observations which it contains, by all those who have the least ambition to obtain the dignified title of "*naturæ ministri et interpretes*."

The author of the article in question inculcates the soundest principles in the most forcible manner, whilst he strongly condemns that unnecessary and baneful interference which has been aptly denominated by Blundell, "the unpardonable sin of midwifery—the sin of those obstetric reprobates—the meddlesome and pragmatic!"

ILLUSTRATIONS

OF THE

PATHOLOGY, DIAGNOSIS, AND
TREATMENT OF OPHTHALMIC
AFFECTIONS.

BY E. O. HOCKEN, M.D. M.R.C.S.L. &c.

[Continued from page 220.]

[For the London Medical Gazette.]

*Amaurotic phenomena from affections
of the Lenticular Ganglion, &c.—
Mydriasis, &c.*

IN the examination of patients labouring under imperfection of vision, it is necessary to bear in mind most clearly the diagnostic points from somewhat similar derangements, or at least derangements possessing some similarity in their symptoms; and, where cases are at all doubtful, to employ such measures as may serve to give either negative or positive proof of their nature. Among the valuable means which we possess of forming our diagnosis, there is one which has been overlooked by writers and practitioners, but which is nevertheless of great value. It has been overlooked from the fact that a true diagnosis of cases in which such a measure would be applicable has been rarely made, and hence they have been regarded and treated as "amaurotic" without any real meaning being attached to the term. But there are cases in which there is great imperfection of vision, dilated and sluggish pupils, and yet there is comparatively little or no real derangement of the true visual nervous apparatus. A grand peculiarity in such cases is, that although the patient complains chiefly or entirely of one eye, and the pupil of that eye is more dilated than its fellow, still both irides are sluggish in their motions, and imperfect in their fields of action. Under these circumstances, the means of diagnosis to which I have alluded is to ascertain how much the imperfection of vision is dependent on dilation of the pupil; and for this purpose the patient should be made to look through small apertures of various sizes in a card, a clear light falling on the object regarded, when, if the case is only one of mydriasis, or dilated pupil, his vision will be rendered quite clear, although the field of vision may be contracted. I have some cases of this kind on record. Of these cases I would

make two grand divisions—the first, of true mydriasis, where the dilatation of the pupil or pupils is the only cause of imperfection; and secondly, where dilatation of the pupil is a complicating evil, the relief of which ameliorates without restoring vision. Of these I will now give examples:—

Impairment of vision, dilatation of the pupil of the left eye, and almost complete immobility of both irides.

CASE.—Susan Salisbury, æt. 35, admitted Aug. 3, 1841, under the care of Mr. Lawrence, “with impaired vision, and partial dilatation of the pupil of the left eye,” which had existed a fortnight.

Her appearance is rather unhealthy; she is of moderate height, and is rather thin. She states that her health is in general but poor, but that she had been unusually well for some months before her present attack. She states herself a housemaid, and feels confident that she has been engaged in no work which could in any way have habitually tried or impaired her vision. She has been subject to “fits” for some time, which, she is told, are hysterical.

She is quite unaware of any cause which could have occasioned the derangement of vision. It commenced without any feeling of illness, as she only discovered how imperfect the vision of the left eye was on endeavouring to read about a fortnight previous to her admission, when she found that she was unable clearly to make out the words. On closing either eye alternately she found that she could see perfectly with the right eye, but that the vision of the left was obscured as if by the intervention of a “cloud.” Shortly after this she began to suffer a dull weight over the brow, deep-seated feeling of pressure in the eye, and pain in the back part of the head. At the time of the occurrence of these symptoms she had considered herself to be in better health than she had been in for a long time.

At present (August), she has no pain in the eye or head, but an occasional feeling of oppression over the brow; sight dim, as if obscured by the intervention of some opaque substance, but perfectly free from muscæ, or luminous spectra. Light is not in general distressing, but when led to the window she complained of its influence being disagreeable.

On examination the pupil of the left eye was found dilated, about half as large again as the right, but little or no motive power was manifested in either iris by the alternation of light and shade. The left globe appeared rather more prominent than the right, and somewhat firmer to the touch; the parts behind the pupil had a somewhat opaque or cloudy aspect (this was rather doubtful, and only seen in particular lights), and the left upper eyelid hung rather lower than the right*, but is quite healthy in other respects. There is a slightly marked, and in some places imperfect, zone of fine, straight, claret-coloured vessels around the cornea, which were especially marked at the lower and inner part. The sclerotica of both organs was of a bluer colour than usual, but this was alike in both eyes, the iris and all the other textures appearing quite healthy.

Her general health is pretty good; her appetite, indeed, has failed since her entrance into the hospital, but her bowels are regular, and the functions of the uterus normally performed. She feels unhappy at the confinement of an hospital, and is very “nervous.”

At this stage of the examination the diagnosis was very obscure. My notebook suggests, slight exophthalmia from disease in the orbit in, or affecting, the optic nerve, with some slight but deep-seated inflammation of the eye itself (?). The progress will probably decide.

She was directed, Hirudines, vj. pone aurem sinist.—Hyd. c. Cretâ, grs. ijss. ter die.

5th of August.—Remains the same. Pergat.

10th.—No change in the symptoms.

13th.—Intestinal canal and digestion slightly deranged by previous remedies. Omite omn.—Emp. Cantharid. pone aurem.—Potass. Iodid. c. Ess. Sarsæ. Vision remains the same.

17th.—Health improved; unassisted vision very imperfect in the left eye, but on making her look at objects through a small hole cut in paper, she can read even small print distinctly with that eye; and on still further diminishing the size of the aperture (making some clean holes in a card), she stated to me that she saw still more clearly and distinctly, but

* In my former paper I alluded to the condition of the lids, and the present is a striking case of this kind, in which the sequel will show how little such a symptom might have been expected.

that the extent of her field of vision was proportionately diminished.

24th.—Unassisted vision improved; general health good; nights restless. To continue. She left the hospital in this condition.

REMARKS.—In the foregoing case, the value of the test which I have proposed is clearly seen, for without its assistance the diagnosis must have remained most obscure and questionable, whereas its employment rendered it certain at once that this was not a true case of amaurosis, but that the dilatation of the pupil formed the principal cause of the impairment of vision; since unassisted vision was obscure and cloudy, light offensive, and the pupils motionless: but when the aperture through which light was admitted into the interior of the eye was artificially contracted by making the patient look through a small aperture in a card, then these annoying symptoms were removed; the light was no longer unpleasant, and vision was clear, although the extent of the patient's field of view was contracted. A great peculiarity in this case was the fact of both irides being motionless, although the vision of one eye only was affected, and only one pupil dilated; and again, the lid of the affected eye hung lower than the fellow lid of the opposite organ. This state of partial ptosis is certainly more common in cases dependent on cerebral disease; but, as I have previously remarked, it does, and may, occur quite independent of any such origin. In many of these cases, where the partial ptosis is unconnected with cerebral disease, I believe it has its origin in an affection of that branch of the third pair of nerves which supplies the levator palpebræ. It was from this consideration, and my belief in the slight prominence of the organ being a case of exophthalmos, that in my notebook I made the doubtful diagnosis of disease in the orbit. The slight and imperfect zone of vessels, with the discoloration of the fundus, might probably indicate some disease in the choroid—some slight change in the pigmentum nigrum. As regards the loss of motile power in the irides, it is evident that this was dependent on the iritic nerves, and not on any disease of the iris itself. I have little doubt myself that the lenticular ganglion was implicated in some diseased actions,

and to a much more considerable extent in one eye than the other. In fact, in the one eye, where the motion of the iris alone was interfered with, the vision was perfect; but its fellow, where the pupil was also dilated, as well as motionless, vision was very defective, but was rendered quite clear by an artificial pupil of small size. The treatment by sarsaparilla and the iodide of potassium seemed to be of some benefit in remedying the orbital derangement.

Having said this much of the preceding case, let me now narrate one in which the vision was improved, but not entirely cleared by this measure.

CASE II.—*Sudden attack of amaurosis, especially affecting the right eye, and disappearing after an hour; sudden recurrence after two days, continuing then as a permanent affection, without other well-marked symptom; imperfection of vision relieved, but not removed, by making the patient look through a diminished aperture in a card.*

Charles Boon, æt. 62, was admitted as an in-patient of the West of England Eye Infirmary during the summer of 1841, affected with amaurosis of both eyes, chiefly developed in the right. He was a spare, short, sallow-looking man; his countenance shrunken, which, with his conjunctivæ, was of a semi-jaundiced appearance. His habitual employments were sedentary, and he had, during all his life-time, been subject to much confinement indoors, and want of out-door exercise, being by trade a shoemaker: he had, however, resided in a country situation. He states that he has always enjoyed undisturbed good health previous to the commencement of August 1841, with the exception of occasional attacks of indigestion.

The history that he gives of his disease is the following:—In the beginning of August 1841 (5th), he suddenly found his sight very defective and dim, and, on trying his eyes alternately, that the vision of the right was nearly extinct, and that of the left confused and misty. It came on whilst at work, and was not preceded or attended by any derangement of his general health: he had no headache, vertigo, or tinnitus aurium; no loss of appetite, or uneasiness in his abdomen; the functions of

the bowels were regular, and no symptom present that he was aware of which could at all explain the nature of the affection. He felt convinced, to use his own words, that it was not "either head or stomach." This attack on the 5th lasted only about an hour, when it passed off completely, and did not recur until the Saturday following.

On the Saturday following, the 7th of August, it again returned at seven in the evening, in the same manner as on the previous attack, and has continued to affect him with similar symptoms ever since that period. It came on in both eyes, but again affected the right organ in particular; the imperfection of vision consisting of dimness and mistiness without pain; and on this, as on the previous occasion, there were no other general or local symptoms.

Causes.—He was quite unaware of any causes which could have predisposed to or excited either the former or latter attack, either from diet or the state of his alimentary canal.

Symptoms.—He now complains of great obscurity and mistiness of vision, which affect both eyes, but is chiefly observable in the right: when he closes the left organ, objects appear distorted and dim with the right; and when this last is closed, and the left opened, he still complains of the same symptoms, but in a less degree. He has never been troubled with muscæ, or luminous spectra, and is not a sufferer from headache, pain over the brow, or of the globe, or indeed complains of any other subjective symptom.

His eyes appear small and sunken, and the conjunctivæ of a dusky-yellow colour; his irides are hazel; the pupils are moderately dilated (when both eyes are opened); and the general expression and appearance is not vacant. When, however, the left eye is closed, the right pupil dilates considerably, and then possesses little, if any, independent motion by the alternation of light and shade. When the right is closed the left is not dilated, but moves sluggishly under the same circumstances as the right organ. The parts behind the lens in either eye appear misty and somewhat opaque, but not more so than is often observable in individuals above the middle period of life. No unnatural vascularity existed in either eye.

He states that his general health is

good, his appetite unaffected, and his digestive and excretive functions normal; his tongue was moist, and the surface whitish; his skin harsh, dry, and sallow; his pulse quiet and natural; and he had no febrile or sympathetic symptoms.

Thinking that there was some obscurity in this case, I made the patient look through different-sized apertures in a card. The vision of his right eye was considerably improved by this measure, so as to enable him to read moderately small print, but the words seemed still to be distorted and enveloped in mist: that of the left was unaffected. During his stay he was treated by the Pil. Hydrarg. gr. v., om. noct., continued until slight soreness of the gums was induced; and maintained in this condition whilst the bowels were laxcd daily by the pill Col. c. Ant. Potass. Tart. gr. v. p. r. n. He became an in-patient soon after the last attack, and perseveringly pursued the forementioned treatment, and with complete repose of the organs, but still without benefit to vision. He left the infirmary for the time, and his case was entered "not benefited."

REMARKS.—The exact nature of this case appears doubtful, although I am inclined to regard it as one of sympathetic origin; for, notwithstanding the patient's denial of all symptoms referable to the stomach or chylopoietic viscera, yet the condition of skin, the aspect of the countenance, and the yellow colour of the conjunctivæ, testify to prolonged derangement of the digestive functions. The suddenness of the attacks, and the rapidity and completeness with which the first disappeared, prove it to have been but functional; whilst the history is similar to attacks of an acute, sympathetic, abdominal origin, both in its primary occurrence, its disappearance, recurrence, and continuance. In many cases of imperfect amaurosis, the use of convex lenses increases the patient's power of vision for the time, although it eventually tends to the increase of the imperfection of vision itself; so in like manner I apprehend that a moderate-sized aperture, cleanly made in a card, would temporarily increase the power and clearness of the patient's sight, when he is made to regard well-illuminated objects through it under the same circumstances; for even the normal size

of the pupil is thus diminished, and the patient is obliged to place such object nearer his eye, whilst the powerful impression of a good light is made on the retina, too much light, or enough to dazzle, being prevented from entering by the contrivance itself: all the oblique rays are excluded, and the direct allowed to pass through. Whether the benefit obtained in the foregoing case is, or is not, entirely to be attributed to these facts, when made to look through the card in the way mentioned, is perhaps doubtful; it is, however, quite evident that it was not so in the first; and I am rather inclined to think not in the last: and I have no doubt that there are mixed cases of this kind, where the condition of the pupil is not altogether dependent on the state of the visual nervous system, disease going on in both the iritic and visual nervous systems conjointly, or both suffering together, however unequally, from some distant and disturbing cause.

The prognosis was most unfavourable from the complete failure of treatment, although commenced at so apparently propitious a period. Should I hereafter gain any more information relative to this patient, I shall hope to communicate it.

Some years back I saw a case, which, I believe, was one of pure mydriasis, although the symptoms were peculiar. I have appended a note of this case in my "Treatise on Amaurosis*." I there remark, "I have seen a case of mydriasis, where extreme dilatation of the pupils seemed to be almost the only apparent pathological condition present, producing near-sightedness in a very considerable degree, and some obscurity of vision; the pupils were insensible to the influence of light; the sight was nearly perfect when objects were viewed very near. This affection arose and advanced without any obvious exciting cause: there was no headache, nor any marked sensation any where; nor did the patient complain of any thing, save the myopic condition of vision."

REMARKS.—Judging from the mere fact of dilated pupils we should have imagined, at first sight, that the patient's vision would have been presbyopic instead of myopic; but facts disprove this. Here probably the near position of the object to the eye ex-

cluded an excess of light, as well as most of the oblique rays, and thus rendered near sight best to the patient. The dilatation of the pupils, and their immobility, with the slight derangement of vision, was peculiar, and, at the same time, the absence of all apparent causes, or any obvious symptom.

15, Southampton St., Covent Garden,
Nov. 15, 1841.

ON A NEW GLASS SYRINGE.

To the Editor of the Medical Gazette.

SIR,

IN your report of the proceedings of the Royal Medical and Chirurgical Society, you alluded to a new glass syringe which I exhibited to the Fellows at the conclusion of their last meeting. Thinking that a description of the instrument might be interesting to your readers, I enclose it, with a few practical hints on injections, and have the honour to remain,

Your obedient servant,
W. ACTON.

5, George Street, Hanover Square,
November 1841.

In my late work on Venereal Diseases I recommended, in the early as well as in the later stages of gonorrhœa, a very weak solution of nitrate of silver to be thrown into the urethra every four hours, by means of a glass syringe. I frequently, however, am at a loss to procure glass instruments, as they are not generally kept by chemists; and I find, moreover, that those in present use fail of the purpose we have in view.

When I order a glass syringe, my patients are sometimes served with a thin glass tube, having a wooden piston; the extremity of the instrument is drawn to a fine point. In other instances they procure the more expensive syringe made of a glass tube tipped with ivory, the piston of metal; and this has likewise a conical-shaped extremity. The price of this instrument (4s. 6d.) places it beyond the reach of many of our poorer patients, and it is moreover liable to several objections: by employing nitrate of silver, these instruments become dirty and are cleaned with difficulty, the ivory becoming discoloured and the metal piston corroding. Patients observe this; and more than one has objected to continue the use of an acid (as they call it)

which produces such effects on metal. On the other hand, the surgeon will justly object to the introduction of all pointed or conical shaped syringes into the urethra, as very liable to irritate the membrane; and, unless properly introduced, the point will often be pressed against the side of the canal, and no fluid will escape. Lastly, it is almost impossible to press the canal against a conical shaped instrument, so as to prevent the escape of the fluid.



The tube, as well as piston, of the instrument I make use of, is made of thick glass to prevent all chance of breaking, unless it fall from a considerable height. The cylinder is made as true as possible, and instead of terminating in a conical extremity, the canal is carried the distance of half an inch (as marked in the woodcut with a *) through the bulb of solid glass. By this simple contrivance the fluid is forced, with additional power, out of the instrument, and the stream does not become so soon divided. The advantages of a bulb will be at once apparent; the patient runs no risk of wounding the inflamed urethra, and a free passage is always insured to the fluid, although the instrument be not introduced exactly parallel with the direction of the canal.

Pressure can be readily and effectually made on the extremity of this syringe, so as to prevent even a drop of fluid from escaping, until the patient desires it. The bulb may be made of various sizes, according to the object we have in view; I generally prefer it of the diameter of the blunt extremity of a goose-quill, as I find it will then readily enter into the urethra of persons who contract gonorrhœa; for, as I have stated in my work, one of the predisposing causes of that complaint is a large meatus urinarius.

It is not, however, alone necessary

for the surgeon to recommend this or that form of syringe. If he expects to cure his patient, he must educate him in the use of it; and the following remarks may not be without their practical advantage to the young surgeon. Let the patient, when standing up, introduce the bulb of the charged syringe, held in the right hand, a quarter of an inch into the urethra, and compress it moderately in the circle formed by bringing the point of the index finger of the left hand to the second joint of the thumb; then, by forcing the piston down quickly, the fluid will readily enter the urethra, and not return until the pressure is withdrawn, when the *whole* of it will escape. By these means I have cured some very rebellious cases, where others, I believe, had failed, simply from a non-attendance to directions which may appear futile to many who are not acquainted with the obstinacy of gleet.

Before quitting the subject I may be allowed, perhaps, to remark on the exceedingly small quantity of nitrate of silver required for the complete cure of a gonorrhœa when injections are properly and judiciously employed. Calculating (as I have elsewhere stated) that twelve injections are usually sufficient, and supposing that each syringe holds two drachms of fluid, a gonorrhœa may be cured by three ounces of the injection, which contains only three quarters of a grain of nitrate of silver; and this is the more worthy of notice, as some surgeons are in the habit of employing injections of the strength of a drachm to the ounce of water. The use, then, of a glass syringe is not only economical as to its price, but saves a great amount of the salt, which is an expensive remedy. Gentlemen desirous of procuring these instruments may see them at Messrs. Fisher and Toller's, of Conduit Street, who have promised to superintend carefully their manufacture.

THE "GREASE."

To the Editor of the Medical Gazette.

SIR,

BEFORE resuming the subject with which I concluded my paper in your journal of the 19th instant, I must beg permission to point out the accidental omission of the clause of a sentence of great importance, and a few verbal

inaccuracies, which need correction. In the second paragraph, alluding to the "inability of Coleman, Woodville, &c. &c." after the words "and many others," should be supplied—"to generate the vaccine from the matter of grease, in all its stages." In the fifth paragraph, for the word "defined," "considered" should be substituted; and, for the word "secretion," "increase" should be substituted.

In my last communication it will have been seen, that on reference to the most distinguished veterinary authorities there has existed, and does still exist, some difference of opinion on the precise pathology of "Grease;" some authors viewing it as a morbid augmentation of the secretion of the sebaceous follicles, from inflammation of those organs, situated in the skin of the heels and neighbouring parts; others, as an erysipelatous inflammation of the skin subsequently involving the follicles; and one author, of deserved celebrity, that it consists primarily in an inflammation of the bulbs of the hair of the same parts.

This difference of opinion can scarcely excite much surprise, when we consider the complex anatomical structure of the parts in question, and recur, as we naturally shall do, to the pathology of similar structures in man, and institute analogies which M. Hurel d'Arboval himself has not hesitated to suggest. But if we were guided by the analogies which human pathology can furnish, we shall be disposed to suspect far greater diversity in the elementary character of the disease of these parts, than appears at present to be generally recognised; and consequently be prepared to find still greater difference of opinion on the subject than even now exists.

But we must be careful to give special physiology its due influence, and we are bound to yield to the results of veterinary experience.

We have here, as in man, structures not only concerned in locomotion, flexion, and extension, dependent on position, and remote from the centre of the circulation, but parts invested with skin replete with folds and involutions, studded with sebaceous follicles, and thickly covered with hair; altogether furnishing a combination of tissues with corresponding complexity of function, of which man offers no precisely similar

example. For these and other reasons, the attempts at analogies, drawn from human pathology, to which we are considered too prone, must be made with some limitation and great circumspection.

Independently, however, of the acknowledged liability of the parts in question to several of the affections of the lower extremities of man, connected with topical irritation, congestion, inflammation, &c. as œdema (acute and chronic); angioleucitis; phlegmonous, erysipelatous, vesicular, pustular; furuncular; paronychial, onychial diseases, &c. we may, indeed, safely and satisfactorily trace other analogies, not less obvious, between the diseases which attack some of the structures of *these* parts in the horse, and those which affect corresponding tissues situated in *other* parts of man. For example, pityriasis, often chronic, and not unfrequently a precursor of grease; chaps and fissures with and without impetiginous pustules; erythema intertrigo—the proper disease of the sebaceous follicles, with occasional vesicles or pustules; and trichosis, or inflammation of the hair-bulbs. It is also admitted that the investing, subcutaneous, and deep-seated tissues, are not unfrequently the seat of metastatic diseases: and we may, perhaps, see good reason to conclude from this fact, that the superficial tissues of these parts may be more disposed to develop the symptomatic and critical eruptions of the horse than the general surface. Hence the skin of these parts may often be to the horse what the general cutaneous surface is to man, and certain limited districts are to other animals,—the teats and udder of some ruminants; the abdomen, thighs, and axillæ of some carnivora, for example. But we shall have to recur to this division of the subject in the sequel.

Whatever opinion may be entertained by those most competent to judge, as to the exact tissues primarily affected in the disease called "Grease," it is abundantly manifest that, in its progress, all the superficial structures, skin, follicles, cellular tissue, and hair-bulbs, become implicated in one common derangement of function, and, in protracted cases, in one general disorganization of structure. It seems, also, to be admitted by all, that the source of the inordinate secretion, from which the disease takes its name, in

England and in France, is the natural structures—the sebaceous follicles. There is no difference of opinion as to the first appearance of the disease exclusively in the heel; and the same general agreement exists in reference to the exciting causes: and although a few of the old French writers declare they have sometimes seen it contagious, others, the far greater part, both British and continental, repudiate the notion.

The omission of vesicles or pustules from the description of the disease furnished by the above, and some other authors, deserve especial notice. It is scarcely credible that so many able and experienced observers should have failed to recognize the recurrence of such phenomena, if they were essential elements of the disease. If small and inconspicuous they might, sometimes, be overlooked; but if essential and always present, at a given period, they could scarcely have escaped the detection of all. It seems, therefore, reasonable to conclude that vesicles or pustules are not often present, and are not essential.

But there can be no doubt, if our analogy be correct, that both pustules and vesicles may be seen in this disease. My own very limited observation has afforded me an opportunity of seeing vesicles like eczema and pustules like impetigo, the latter even at an early stage. — M. Hurtrel d'Arboval, though excluding them, as it has been seen, from his description of the disease, admits, in the course of his argument on the asserted origin of the vaccine in grease, that small pustular elevations are occasionally observed at the origin of each hair; but that they are not to be perceived at all periods of the disease, neither when it is present, nor in young subjects when the disease is mild, where it will often be cured without their occurrence. "Il est certain," he remarks, "qu'il y a des eaux aux jambes dans lesquelles il existe des boutons ou plutôt de très-petites élévations pustulaires, à l'origine de chaque poil; mais on ne les aperçoit pas dans tous les temps de la maladie, ni lorsque la maladie est très-nouvelle, et même sur les sujets jeunes et d'une bonne constitution, l'affection n'étant pas trop intense, la guérison s'est quelquefois opérée sans qu'on ait observé aucun de ces élévations butonneuses."

M. Rayer, not less distinguished for his varied and profound knowledge of human pathology, than for his zealous and successful attention to the eruptive pathology of animals, remarks*, "Plusieurs exemples d'eaux aux jambes qui m'ont été montrés par des vétérinaires bien instruits, appartenaient évidemment à l'eczéma impétigineux ou à l'impétigo."

As some veterinary authors have favoured us with their opinions on the asserted relation of grease to the vaccine, it becomes important and interesting to know the results of their consideration of the subject. And first we may refer to M. Hurtrel d'Arboval, who has written with his usual comprehensiveness, and discussed the subject with his well-known ability, acuteness, and candour; but, unfortunately, with an avowed unacquaintance with many of the requisite details, and, obviously, without that extent of recent information which might have been expected from him.

In alluding to the distinction made by the English† between the local and constitutional disease, the latter characterized by fever, and relieved by the affection of the heel and a general eruption, he remarks that he had never seen this general eruption in connexion with what he calls the principal malady, but prudently admits that such coincidence, as he terms it, is not, therefore, to be denied. At the same time he very politely insinuates that the English may have mistaken a difference in intensity for a difference in species; in fact, that they may have confounded incursive with symptomatic fever! He concludes, that whether grease arises from constitutional or accidental causes, its seat is always the same whatever part of the organization that may be, and that it is constantly and invariably local, and the phenomena of reaction, which sometimes accompany it, being merely accessory, neither changes any thing of its nature, nor its special seat. He therefore says, *il n'y a donc pas deux espèces d'eaux aux jambes.*

But, with an anxious desire to be impartial, and with a view to reconcile the conflicting results of the experi-

* *Traité Théorique et Pratique des Maladies de la Peau*, (2^de édition, tome premier), art. Vaccine, p. 614.

† Dr. Loy, on the Origin of Cow-pox, p. 21. 1801.

ments and observations of different persons, he conjectures that a difference in the intensity or stage of the disease, when the matter was taken, as well as in the source from which it was derived—whether from the pustules or vesicles, which now for the first time he alludes to, or from the follicles themselves—might influence the result. Nevertheless, he is far from satisfied of the alleged relation of the grease and the vaccine, particularly as he knows that medical men confound the *grease* with the disease called *javart**; and concludes with the following pithy and appropriate remarks:—"Il est quelquefois bon de ne pas pousser aussi loin l'identité, même l'analogie; il nous semble que si l'on admettait comme positive l'identité des eaux aux jambes avec la vaccine, si l'on admettait que les eaux aux jambes soient, comme la vaccine, capables de préserver de la petite vérole, l'analogie entre certaines maladies irait si loin qu'elle finirait par ne plus rien offrir de spécial; car enfin, il faut bien en convenir, il y a moins de différence visible entre la variole et la vaccine, qu'entre la vaccine et les eaux aux jambes."

The late Professor Coleman has been known to say, "that there never was a well-authenticated instance of cow-pox being generated from grease." Mr. Percivall†, on whose authority this statement is made, evidently doubts the connexion of the two diseases.

* The term *Javart* is used by continental, and especially by French veterinary surgeons, to indicate many diseases which differ not only in the nature of the tissues they attack, but in their seat, their course, their terminations, and their gravity. Diseases which affect the lower parts of the organs of locomotion of the horse, the ass, the mule, and even the ox; such as the feet, the coronet, and the pastern, particularly on one of the lateral aspects of these parts, often the inner; and more frequently the head than the fore legs. Its etymology seems unknown; but according to M. Renault, there is a common trait in all the diseases so called, viz. the existence of a portion of degenerated tissue whose presence provokes and prolongs the morbid phenomena, and to the expulsion of which the efforts of nature are directed. This peccant "slough," "core," or "set-fast," is now called by the moderns "Bourbillon;" but in most ancient veterinary works "Javart." It seems to be a phlegmonous inflammation with gangrene of some tissue, abscess, and frequently fistula. It has been named according to the different tissues attacked—*javart cutané*, *tendineux*, *cartilagineux coronaire*, *encorné*, &c. The first is analogous to furuncle, and the second to tendinous paronychia of man. In England, the term "quittor," designates some of the species. In France, it appears that inveterate grease may excite others.

† Hippopathology, vol. 1. p. 306,

Mr. Youatt* admits that a pustular eruption has been occasionally excited by the matter of grease, resembling the spurious disease of the cow, but not the genuine vaccine; and proceeds to say, with his characteristic emphasis and decision, "Whatever may still be the opinion of a few medical men, it will be difficult to find a veterinary surgeon whose life is spent amidst these diseases, and who ought to be well acquainted with their causes, nature, and effects, who believes that there is the slightest connexion between them.

M. Rayer†, whose opinion of the nature of grease I have had the pleasure of quoting above, thus intimates his belief in the probable difference in nature of the several diseases called Grease:—"Je crois devoir faire remarquer qu'il serait possible que toutes les affections qu'on designe sous le nom d'*eaux aux jambes* ne fussent de même nature. Plusieurs exemples d'*eaux aux jambes* qu'on m'a montrés avaient plus de ressemblance avec l'*eczéma impétigineux* qu'avec aucune autre maladie."

In connection with this remark I will add the following:—Viborg‡ "saw on the heels a thin, clear, watery humour, of a peculiar smell, discharged from red horn-like elevations (which Sacco designates as small condylomata). The disease is more frequent in low and humid districts, in wet seasons, and among low-bred animals, than under reverse circumstances. The acute stage generally passes unobserved, or is treated with domestic remedies, and therefore comes far less frequently under the notice of veterinary practitioners than its after consequences." I have seen the disease in this neighbourhood, in wet seasons, and am informed it will attack all four limbs at once. This I have seen terminate in grease.

We may now refer to the various descriptions, by different authors, of the disease which is known to yield a lymph identical with the vaccine.

Jenner's description§, it will be seen, is incomplete when compared with that of some others; but it is not more so than his description of the vaccine. It will be recollected that it includes

* British Cattle, art. Cow-pox, p. 556.

† Traité Théorique et Pratique des Maladies de la Peau, 2^de édition, tome 3^me, p. 919.

‡ Hering, Ueber Kuhpocken au Kühen (p. 6.)

§ MEDICAL GAZETTE, Nov. 5, p. 228.

characters either not generally recognized, or altogether denied existence, in grease.

The disease seen by the late and the present Mr. Lupton, of Thame*, was an eruptive vesicular disease, preceded by fever; vesicles on the heels containing a limpid fluid; the incursive fever and general indisposition altogether disproportioned to the extent of local irritation; which terminated, without the ordinary phenomena of grease, by the aid of simple warm fomentations. It attacked eight horses, which were not suspected by any person, who saw them, to be labouring under grease†.

Dr. Loy's case‡ exhibited fever and considerable indisposition previous to the eruption, which attacked the general surface as well as the heels. Having never succeeded in generating the vaccine from the non-febrile topical grease, he concluded there are two very different species, thus distinguishable.

Instructed by Dr. Loy's precise observations and conclusive experiments, others subsequently detected the disease. Sacco§ saw it in a severe form. It prevailed epizootically, attacked one horse after another; but locally was difficult to distinguish from local fissures of the heel, &c. Amongst other phenomena, which will be presently described (as observed by many German veterinary professors), he speaks of a fleshy slough succeeding the eruption and inflammation, which, being detached, leaves a deep hole, from which issues, for seven or eight days, a quantity of limpid or purulent matter of a specific odour; after which the gap contracts and closes, leaving some small superficial cracks||.

La Font¶, having the aid of Dr. Loy's work, found the disease which was called by the Macedonian farriers "*Javart*," and the species "*Variolous*."

* MEDICAL GAZETTE, Nov. 5, p. 228.

† Mr. H. Lupton informs me that he has heard of these vesicles having been seen, in his neighbourhood, on the neck of the horse, near the mane.

‡ Ibid. and Experiments on the Origin of Cow-pox, p. 20. 1801.

§ Baron's Life of Jenner; Almanach de Carlsbad; Hering, Ueber Kuhpocken au Kühen.

|| The Italians denominate the disease *Giavardo*, *Chiavardo*, terms which are employed in the same loose way to indicate several affections of these parts, alluded to in the note, p. 432. The slough which Sacco speaks of, like that arising from other affections of these parts, the farriers call *Testa del Male*.

¶ MEDICAL GAZETTE, Nov. 5, p. 229, and Baron's Life of Jenner, vol. ii. p. 432.

It is thus described: fever terminating in an eruption. In one case, the fore legs were much swollen; the left had four ulcers, one on the heel, one some inches higher up, a third on the articulation, a fourth near the breast. The eruption on the breast was very like small-pox, but none was to be seen on other parts of the body. The lymph taken was limpid; rather yellowish, and filamentous; but it succeeded in producing the vaccine on some children. The vesicles were more purple than usual.

In many parts of the north of Germany, in the year 1830, the equine disease was epizootic, as described above by Sacco in 1803. It was seen by Professors Hertwig, of Berlin, Ritter, of Visel, and Rosendahl, of Nostorf; and also by Berndt*. Professor Hering thus describes the disease observed in Germany†:—"This (so called) acute grease (so genarmte acute ellanke) consists in an erysipelas of the skin covering the heels and pasterns of the horse, which frequently extends upwards on the hinder part of the metatarsus and metacarpus, and at first produces little vesicles, which are, for the most part, overlooked, being concealed by the hair: from the surface of these vesicles exudes an acrid lymph of a peculiar odour (which is the *Schutz-Mauke*, or preventive grease). At a later period these vesicles, through damp, inattention to cleanliness, and improper treatment, readily passed into fissures resembling *impetigo* or *chronic grease* (*Chronische Mauke*) which heal with difficulty, and finally occasion various degenerations of the adjacent cellular membrane. In other cases, the inflammation, though very circumscribed at first, extends deeper, and portions of skin, of greater or smaller size, dry up into eschars, and are detached.

Lastly, Dr. Kählert, Veterinary Professor at the University of Prague, states‡, that when he first saw the

* Hering (Ueber Kuhpocken au Kühen) informs us "that the symptoms were identical with the variety called *Ausfallenden Mauke* (Wolf) by veterinarians (*Mauke* being the presumed equivalent for grease, *eaux aux jambes*, *javart*, &c.): and that Sacco's description answers to this variety."

† Ibid. p. 5.

‡ *Du Javart préservatif*, trouvé en Bohême, sa description et sa rapports avec le cow-pox et la petite vérole, par M. C. G. Kählert, M.D. &c. &c. Traduit de l'Allemand par le Chevalier Jean de Carro (Almanach de Carsbad). Prague, 1833.

disease he was struck with the great difference between it and the common Mauke (grease) of horses. He describes it as a febrile disease with considerable indisposition, followed and relieved by a critical eruption, attended with an erysipelatous inflammation on the heels, &c. &c., from which he obtained a limpid yellowish fluid. The disease terminated in ulcers of various sizes. He called it the *preservative equine*, to distinguish it from the common grease, into which he admits it does often degenerate, but with which it has no other connexion. He classes this *preservative equine* disease amongst the febrile exanthema of animals, such as aphtha epizotica, the vaccine, metastatic and critical diseases of ruminants. He particularly insists on the necessity of this distinction, adding, that the common topical affections of the heels, &c. of horses has no power to excite this specific disease, and, consequently, no preservative influence.

The confusion created by the early, unhappy, but excusable, use of the term grease, may be now readily appreciated; and I will merely adduce the following illustration from the above essay; I mean the French translation of it by Dr. De Carro:—

"Il s'en faut de beaucoup comme lui (Jenner) et d'autres l'ont observé, que toute éruption, croûte ou ulcère du pied du cheval soit le *grease*, attendu que de semblables affections sont souvent causées par de simples lésions, contusions, frottemens, ainsi que par des engelures, la malpropreté, etc. Le vrai *grease* est tout à la fois symptôme, et produit d'une affection interne et générale de l'organisme du cheval."

From what we have already seen it is not surprising that the two diseases should have been so often confounded, when in reality they are shown to differ in nature, cause, and effect. The incur-sive fever of the equine disease, when it occurred spontaneously, would be more manifest, like the fever of natural vaccine, than when casually induced by contact. But, as in the vaccine, it is probable that even under the former circumstances, it would differ in degree, according to season, circumstances, and individual temperament, and be somewhat overlooked. Though the equine has been observed as a general eruption, like the vaccine (both in Europe and Asia), yet, like the latter, it is for

the most part topical. Existing or coexisting with the ordinary degenerations of grease, it has also existed independently of that disease. In this state it has passed off as the vaccine in the cow with little topical inconvenience; but it has also terminated in deep sloughs of the skin and cellular tissue: precisely as occasionally happens with the vaccine when the excretory duct, penetrating the teat, is exposed. The acknowledged difficulty in detecting the eruption, on the parts chiefly attacked, the confluence and early rupture of the vesicles, and the consequent exudation of their contents, apparently as in common grease, was well calculated to embarrass the diagnosis. Such difficulty can only be thoroughly appreciated by those who have repeatedly made attempts to ascertain the character of eruptions on parts of animals covered with hair. It becomes, at certain periods, and under certain circumstances, quite impracticable. Another perplexing circumstance arose out of the modified development of the vesicles. What the extent of that modification may be we are hardly capable of judging from existing descriptions. In one case the vesicle is said to have resembled variola. The existence of an areola, diminutiveness of size, limpidity of contents, alone would scarcely have prepared us for the result of their transfer to man or the cow. Some facts and many analogies might be adduced on this occasion; but they would be premature till we have really ascertained more in reference to the precise character of the vesicles. But the modification in the development of the vaccine artificially induced on man, the dog, and especially the sheep, abate much of our surprise at this apparent anomaly.

Whatever opinions may be entertained of the intimate nature of the equine and vaccine—identical diseases;—whether *variolous* (to which I am but a *recent* convert), or *suigeneris*, as others contend—I confess that time and observation have only confirmed, in my mind, the correctness of the original statement of the late Mr. Lupton, of Thame, that they are "widely different from grease."

Mr. Coles, and those of your readers who take any interest in this subject, will doubtless think that, in my answer to his appeal, I have been guilty of wearisome and needless prolixity. This is the result of an anxious desire to

avoid controversy. Whether I shall have succeeded in my intention, of course I do not know; but this I know, and must crave permission to state, that I have neither taste nor time, if I had the most important requisites, for such a purpose.

Unexpectedly and most unworthily invited to furnish information which I certainly do not possess, I have ventured to produce that which otherwise I should not have volunteered to offer; indicating, at the same time, the source from whence it has been derived.—*Ut si Cæcus iter monstrare velim.* And having done this, I have no other remarks to make; but to those who need more information, I would suggest the advice which, on this occasion at least, I myself have taken, and which, in the words of its eloquent author, I beg most respectfully to tender:—"Meos amicos in quibus est studium, jubeo ut à fontibus, potius quàm rivulos consecretentur."

With sincere apologies for this encroachment, and with many thanks for your indulgence,—I am, sir,

Your obedient servant,

ROBERT CEELY.

November, 1841.

ON THE PREPARATIONS
OF THE
EXTRACTUM COLCHICI ACETICUM
AND THE ACETUM CANTHARIDIS.

To the Editor of the Medical Gazette.

SIR,

I WISH to offer a few remarks respecting the preparations introduced for the first time in the last Pharmacopœia, viz. the extractum colchici aceticum, and the acetum cantharidis. The formulæ of both these preparations, as directed in the Pharmacopœia, differ in some important particulars, as I think, from what I *originally* suggested many years ago.

In the 4th edit. of my Treatise on the Nature and Cure of Gout and Gravel, &c. published in 1823, I expressed myself as follows, on the subject of the acetic extract:—"For the last two or three years, I have been in the habit of prescribing an extract obtained from the acetum colchici by inspissation, which, in order to secure uniformity in the medicine, I have hitherto directed as prepared at my desire, by Mr. Gordon, of Oxford Street. I have never in any

instance found it disagree in any respect, and I consider it a very useful and convenient form of medicine."

The method in question, to which I give the preference, consists simply in inspissating, by means of a gentle heat, a saturated infusion of the dried roots (carefully selected) of the colchicum autumnale in acetum destillatum; the evaporation being carried on till the mass became of the consistency of honey. I am convinced that this is a superior preparation to that of the Pharmacopœia, more active in its properties, and more uniform in its strength. It seems reasonable to believe, that the root in the dried state is in a more favourable condition for yielding its active principles than when fresh. I am of opinion that with these the acetic acid forms such combination as to furnish a medicine of superior properties; and I am strengthened in my partiality by the increased favour which it daily finds with the profession. From the best estimate which we can make, we are of opinion that one grain of this extract represents a fluid drachm of the acetum colchici. Yet it may certainly be given with more freedom than the fluid preparation, as not tending to disorder the stomach; and allowing so conveniently other medicines to be given in conjunction with it, calculated to favour further indications than that of counteracting the gouty or the rheumatic irritation, the only legitimate purpose to be answered by this medicine when prescribed for these disorders. In my view of the question, as I have often had occasion to observe in my different publications, colchicum, in no form in which it may be employed in the treatment of gout, should be considered in any other light than as a palliative remedy; and I think the greatest error committed in its administration has been the trusting it as a curative agent; neglecting the more important consideration of looking to the exact state of the constitution; ascertaining the visceral conditions or other circumstances, in relation to which the gout may stand but as a symptom. Consequently, also, no two cases will allow of being treated exactly alike; and hence the folly too of the empirical conduct of patients themselves. I affirm of colchicum that it is the best or the worst remedy in gout, accordingly as it may be employed.

There is less objection, I conceive, in principle to the separate administration of colchicum in rheumatism than in gout, as the disease may not necessarily be so much connected with, and depending upon, external visceral disorder; but here also a combined treatment will be found the most rational and useful.

In the 2d edition of my "Cases illustrating and confirming the Remedial Power of the Inhalation of Iodine and Conium in Tubercular Phthisis, and various disordered states of the Lungs and Air-Passages," I gave the following statement of the other preparation of which I am about to speak, the acetum cantharidis:—"It happens with some persons that even a blister causes a degree of irritation too disturbing for the general system. I have used with advantage as a convenient counter-irritant a saturated infusion of cantharides in the strongest acetic acid. It is a very manageable remedy, and in many ways highly convenient. If used diluted, it will act as a rubefacient; if in its state of concentration, it will vesicate in a short time. It may be applied by means of a strong camel's-hair brush to the smallest extent of surface, and in any situation.

On other occasions I have, in the journals, adverted to this remedy. I do not recommend it as one calculated to supersede the use of the ordinary blister plaster, which I consider to have the advantage of acting more on the deeper seated vessels, and in its vesication producing a more dense serum, and by a more gradual operation, which is often desirable. When, however, a very prompt counter-irritation and vesication may be desired, and also when particular situation or other motives of convenience come to be considered, this liquid blister is a very valuable resource.

The mode of preparing it, as I have mentioned, is very preferable to the formula directed in the Pharmacopœia. The acetic acid in its state of concentration must be a more powerful solvent of the active principles of the cantharides than the common acetic acid, as well as being in itself very efficient in producing vesication.

I am, sir,

Your obedient servant,

CHARLES SCUDAMORE.

Wimpole Street, Nov. 1841.

ON DEAFNESS

FROM MORBID CONDITIONS OF THE MUCOUS
MEMBRANE OF THE STOMACH AND
THROAT.

By JAMES YEARSLEY, Surgeon.

(Continued from p. 389).

(For the Medical Gazette.)

I WOULD here record my conviction that the forms of deafness referrible to the mucous membranes, amount to at least two-thirds of all the cases that come before the aural practitioner, though their nature and cause have never been properly appreciated. It includes what authors have considered the symptomatic deafness produced by dyspepsia; while, in fact, though it is the result of dyspepsia, yet a morbid change has been produced in the ear secondarily to the disorder of the same membrane of the stomach; so that it is not enough to treat the stomach solely, as the relief of the dyspeptic symptoms is at least but palliative, instead of curing the deafness, which is certainly the most distressing part of the twin malady.

In the same category may be placed a great number of cases termed *nervous deafness*. This appellation has been a kind of refuge behind which to place any case of deafness that did not present grossly to the eye, or suggest to the imagination, some physical explanation of its cause—a sort of *nominis umbra*, which all aurists have had the sagacity not to define, from the certainty it would destroy their attempts to systematize diseases of the ear. It has been thought quite sufficient for an aurist to assure himself, no matter how, that the Eustachian tubes were free, and the external meatus clear of obstruction, or even devoid of the natural secretion, the ear-wax, to decide at once that deafness, under such circumstances, must be of a *nervous* character.

Sometimes attempts have been made at refinement, and the minute structures of the labyrinth accused of causing deafness, though we have no knowledge whatever of the healthy functions of these delicate parts, and no facts to elucidate, in the least degree, the effects of any change in their structure, either natural or morbid. The symptoms of the so-called nervous deafness accord with what I have here given, and

observed again and again at the Institution for Diseases of the Ear and in private practice, as the unerring result of chronic disease of the auditory mucous membrane. I do not mean to proscribe nervous deafness as a non-entity; so far from this, I have myself written on the causes and treatment of cases unequivocally deserving the name, but I most strongly aver, that in the practice of aural medicine my compeers have been pursuing a phantom under this name, when, if they had applied themselves diligently to observation and the comparison of facts, they would long ago have discovered the paramount importance of the mucous surfaces in the production of ear-disease.

If we scrutinize the meaning of the term *nervous deafness*, it can only mean deafness in which paralysis of the auditory nerve is produced by some change in the nerve or the brain; but this is really the case in but a small minority of deaf patients. A simple test will show the fallacy of the usual diagnosis in diseases of the ear. If the ticking of a watch can be heard when applied closely to the auricle, or held between the teeth, it cannot be the auditory nerve that is in fault, but must be some part of the acoustic apparatus serving to transmit sound from the external air to the nerve of hearing. This test is unequivocal, because the nerve being in contact with the temporal bone, and the bones of the head being good conductors of sound emitted by a solid body, as a watch, when in contact with them, it is much the same as though the sonorous impulse was imparted directly to the nerve. If any deaf readers will try this experiment, very few will find themselves deaf to a watch held between the teeth.

When deafness has existed for many years, of course the nerve of hearing becomes enfeebled from long disuse; but this is no more a valid reason for believing the primary deafness of a nervous character, than for considering cataract a nervous blindness, because the optic nerve loses sensibility to light when it has long been shut out from the eye. The symptoms, usually termed nervous, are of little importance as a cause of deafness; those of nervous excitable temperament do not often see, taste, or smell, worse than others, and there is no reason whatever why

the hearing should be affected in such cases. So far from nervousness being set down as a cause of deafness, the allegation should be completely transposed, and the nervousness considered as the result of the deafness. If the deaf were to examine their own sensations, they would perceive the truth of this. Deafness is so severe a deprivation that few can endure it without repining and experiencing the variety of conflicting feelings which go to form nervous excitability, irritability, or nervousness. It is true, that when deafness is fully formed, many of the deaf hear much worse at times of excitement; but this is rarely the case at the onset of the disorder, and is clearly referrible to the state of the brain rather than of the auditory organ. The mistakes made with regard to the assumed nervous deafness are injurious in many respects, and in none more so than as tending to useless and injurious methods of treatment.

The kinds of deafness and disordered states of the ear already noticed, are the most prominent of those arising out of morbid conditions of the mucous membrane, but others of considerable importance in practice remain to be described. Discharge from the ear, of whatever kind, whether acute or chronic, mucous or puriform; from the external meatus, without erosion of the membrana tympani; or from the cavity of the drum itself, with loss of the membrane; are often the sequelæ of disease of the lining membrane within the tympanum. When this membrane is in an irritable or congested state, the supervention of a cold occasions an active degree of inflammation, constituting otitis. This disease generally goes on to suppuration, because of the mechanical pressure exerted on the parts implicated by the surrounding bones. According to the treatment pursued, the nature of the constitution, and various extrinsic causes, it may terminate in any of the grades of ear-discharge specified above; or it may run on to the more dangerous termination of caries of the bone, and abscess opening through the mastoid process. In the simplest form of otorrhœa, namely, from the external meatus alone, the disorder is very commonly induced by disease within the drum. In fact, so intimate is the connexion between the *cavitas tympani*

and the meatus externus, that the former is never deranged without affecting the latter. In the congested state of the mucous membrane of the throat, Eustachian tube, and ear, there is itching and sometimes pain in the meatus, and the secretion of cerumen is either diminished or depraved. I have observed the ceruminous and sebaceous glands of the passage often pass by slow degrees from the natural state to the secretion of mucus, and eventually pus, when there has existed a source of irritation within the tympanum.

It is of great importance to diagnose correctly between internal and external otorrhœa. The common mode of directing the patient to blow through the ear with the nose and mouth stopped, is uncertain, because many in whom the Eustachian tubes are unobstructed, are unable to blow air up to the ear so as to affect the membrana tympani. In my own person, I can readily inflate the right tympanum, but never remember to have succeeded on the left side, except by catheterism. In cases of otorrhœa with a perforated membrane, some who are at one time able to force air through so violently as to produce a loud whistle, are quite unable at other times to get air through the Eustachian tubes. The rationale of this is difficult to explain. It may be, that the mouth of the tubes are closed by the effort of blowing the nose, or that they are covered in by the soft palate in a valvular manner during the forcible respiration with the mouth and nose shut; or the interposition of mucus. Here, as in many other instances, the use of the catheter and air-douche is the only infallible guide by which a stream of air may be readily passed through the ear when perforation is present, so as to be heard at a distance of two or three feet.

Many disastrous results have attended the uncertainty about the integrity of perforation of the membrana tympani; cases of perforation have been infected with acrid and astringent fluids, and the sudden stoppage of the discharge has produced dangerous cerebral symptoms. I consider syringing to be the great heresy of modern aural surgery, and its practice must certainly have arisen from observing the effects of injections in other and less delicate organs, rather than from any good results which follow its use in ear-dis-

ease. If employed when there is discharge with loss of the membrana tympani, it hazards inflammation of the internal structures of the ear, besides the almost sure aggravation of the deafness; and this latter ill result is occasioned with certainty when astringents are thrown in upon the entire membrane, whether they arrest the discharge or not. I feel certain, that the daily use for a month of an ordinary astringent ear-injection would render the naturally elastic and sensitive membrane of the drum tense, hard, and insensible, to such a degree as to deafen the acutest hearing, and the same evils obtain when injected for the purpose of suppressing a discharge. In practice, I need not to make the inquiry, for the touch of the probe will enlighten me as to whether my patient has been subjected to such treatment.

[To be continued.]

ON THE USE AND APPLICATION OF THE ABDOMINAL BANDAGE IN LABOUR.

To the Editor of the Medical Gazette.

SIR,

SOME valuable and judicious remarks appear in your GAZETTE of the 12th November, from the pen of Dr. Murphy (late of the Dublin Lying-in Hospital), in which he strongly advocates the use of the abdominal bandage in the management of the placenta. He is, however, incorrect in supposing that to Drs. Collins and Conquest alone belongs the merit of recommending its application previous to the expulsion of the placenta; and, as he admits his doubts on the subject, and politely requests correction or information respecting it, I am induced to solicit your insertion of the following in proof of a coincidence of opinion on the part of, at least, one other writer and teacher.

At the time when Dr. Hugh Ley (who I believe objected to the use of the bandage during labour,) occupied the midwifery chair at St. Bartholomew's, I attended the lectures and practice of Dr. Waller. In those lectures he was accustomed constantly and emphatically to inculcate the application of the bandage as soon as the head was engaged in the brim, or, in other words, at the commencement of the

second stage of labour; and he explained the benefit derivable from this early use of it to be,—the establishment of uterine efforts, when, from exhaustion or mental agitation, the progress of labour had been interrupted; the stimulation of powerful and regular contractions, when slight and inefficient pains only existed; the shortening of the whole period of parturition; the prevention of syncope; great comfort and support to the woman, from the benefit of counter-pressure and a firm point of resistance afforded to her by the bandage during those “forcing” and propulsive pains by which the second stage of labour is distinguished; the detachment of the placenta, and its lodgment in the vagina, by the same pain which expels the fœtus, provided it were not morbidly adherent; and, lastly, the prevention of atonia uteri, and consequent passive hæmorrhage, after the expulsion of the placenta.

Dr. Murphy alludes to the practice of the late Dr. Denman, who abandoned the application of the bandage until the sixth day after delivery. From Dr. Waller’s edition of Denman I quote a note of the Editor’s (page 205), which fully illustrates his own practice and opinions as to the advantages and proper period of application of the abdominal support.

“When the second stage of labour has commenced, considerable advantage may be derived by the application of a bandage or belt around the abdomen, furnished with a pad, which is to be placed over the uterine region. This belt should be furnished with straps and buckles, so that it may be progressively tightened as the abdomen diminishes in size from the descent of the child. By this continued pressure upon the uterus, a slight degree of stimulus is communicated, which encourages the organ to continue its contractions, and thus tends, in a very material degree, to prevent the occurrence of hæmorrhage afterwards. Independently of this fact, it also prevents that distressing feeling of faintness which is apt to occur when a great degree of pressure is suddenly removed from the large blood-vessels: this fact is well known to operating surgeons, who invariably apply a roller of some kind round a patient’s body previously to performing paracentesis abdominis. By increasing the pressure during and

after the birth of the child’s head, and by retarding rather than accelerating the expulsion of the body and lower extremities, the uterus is made to act with increased energy, and a favourable expulsion of the placenta will generally be ensured.”

Nor is the appeal to facts, and to the results of practical and extensive experience, less satisfactory, in demonstrating that these suggestions are based upon correct and scientific principles; and that no one tenable objection can be made to the application of a means proposing, and, indeed, securing, so many and so important advantages; and which, by preventing rather than relieving some of the most formidable perils of child-bed, can obviate causes of much, and but too often of well-founded, anxiety both to the practitioner and the patient.

Some discrimination of cases is doubtless necessary in the employment of the bandage. The destitute and debilitated poor of a manufacturing district are eminently exposed, by their habits and privations, to atony of the system generally, and, especially, to atony of the uterus. It is in the midst of such a population, therefore, that passive hæmorrhages and protracted labours most frequently occur. The first labours of such women are usually sufficiently vigorous, unless their constitutions have been debilitated by previous diseases, excessive discharges, or other depressing agents. But in subsequent labours, and when the woman has borne many children, the case is far different. The vascular system will be found acting with diminished force, and, in its debility and relaxation, the muscular system will participate, and, above all, the fibres of the uterus; since, in one important feature, its fibres do not obey the general law of muscular tonicity. The muscular fibres become stronger the more powerfully and frequently they are called into action; whereas the tone and contractility of the uterus appear to be decreased in proportion to the frequency with which its powers are exerted in childbirth. In the cases referred to, therefore, the pains will be short, distant, and weak: and this state of things may be associated with a roomy pelvis and full dilatation of the os uteri, leaving the practitioner nothing to expect—nothing to wish for

—nothing to do,—until efficient pains are established. To effect this end, the administration of the ergot is generally had recourse to by the surgeon, both to economise his own time and to relieve his patient's anxiety; and under its influence the labour is generally terminated speedily and favourably. It is not to be forgotten, however, that the effects of this drug are to substitute, for the natural throes of parturition, an intermitting and continued, and therefore unnatural, expulsive effort; that some peculiar idiosyncrasy of constitution frequently, very frequently, exists, refusing to submit to its action, frustrating the efforts of the medical attendant, and disappointing the roused and excited expectations of his patient; that under many circumstances does its use endanger the child; and, above all, that, should circumstances of exigency subsequently arise to contraindicate its effects, the system of the mother is not easily withdrawn with promptness from its influence, until the uterus is emptied of its contents. In such cases, then, is the application of the bandage especially advisable; and it should ever precede the administration of the ergot, as fulfilling all the indications we expect from this drug, and as liable to none of the objections with which it has been charged.

Much, however, depends upon the mode of its application, and upon the direction and degree of its pressure; and while, from motives of delicacy, the accoucheur may entrust its actual application to an intelligent nurse (quite a "*rara avis*," by the by) he should invariably superintend it himself, and particularly as to the degree of tension it may be proper to make. For this purpose, he should run his hand along the edges of the bandage, both above and below, between it and the skin of the patient, for it should, if possible, be placed upon the skin, and not over any part of the dress. The fatigue consequent upon its removal and reapplication, when, after the termination of the labour, the dress must be removed, and, no less, the danger of syncope, or of a relaxation of the uterus from even this momentary withdrawal of its accustomed pressure, afford sufficient and cogent reasons for our attention to this point. The bandage itself must therefore be made of soft and agreeable, yet firm, materials,

and the degree of tightness must be regulated on all occasions by the sensations of the patient, and whatever may be her own prejudice against the measure, and whatever the amount of reluctance on the part of the attendants present, to coincide in the application of what is, generally speaking, to them a novel interference, yet kindness and firmness on the part of the accoucheur will, in most cases, be followed by speedy and spontaneous expressions of comfort and of satisfaction on the part of his patient.

But it is no less in cases of tendency to passive hæmorrhage that this measure should premise all attempts at delivery. It has been my own lot in repeated instances to attend women, whose previous labours were invariably or generally followed by this formidable and perplexing symptom, and who, both during the last weeks of pregnancy and in the pangs of parturition, have predicted its return. In the abdominal bandage the practitioner possesses a powerful and seldom failing means of preventing or much controlling such an occurrence; and it should, in every such case of habitual tendency to atonic bleeding, be early and perseveringly applied. In no one case in my own experience has my confidence been misplaced, even where the predisposition and habitual liability were most strongly marked, provided the bandage has been applied sufficiently early; and though, from no single case is the practitioner warranted to reason "*post hoc, ergo, propter hoc*," yet the coincidence is too striking, and too frequently, nay, too invariably repeated, to permit it to be regarded philosophically as other than a consequence.

It should be remembered that, in neither of the two classes of cases above referred to, will it be necessary, or even proper, to wait for symptoms which may urgently require the application of abdominal pressure. The indication is, in fact, to prevent the occurrence of such symptoms, and to supply early, and throughout the progress of parturition, that support to the uterine parietes of which they are deprived by the inaction or atony of the abdominal muscles.

During the first stage of labour, however, and before the os uteri has dilated—in first labours generally, and when the external parts, and especially

the perineum, are rigid and unyielding—the use of the bandage is contra-indicated; for the same reasons, though certainly not to the same degree, that will, under similar circumstances, render the ergot inadmissible. In few cases, indeed, will the ergot become necessary when the bandage is judiciously and opportunely applied.

In the work of Ramsbotham, one of the most recent and perhaps the most experienced writers on practical obstetrics, little is said on the subject of the bandage. He remarks, however, incidentally (yet without urging its employment), that “the pressure of the bandage will often excite the uterus to increased action, both before and after delivery.” And, again, that “firm and steady pressure will sometimes excite it to more vigorous contraction, even while it contains the fœtus within its cavity.”

I can add my own humble testimony to the importance and efficiency of the measure which Dr. Murphy has suggested and enforced, and which, as a pupil, I was taught to regard as one of the most necessary and indispensable duties of the accoucheur in the lying-in room: and I doubt not but in the recollection of many of my old fellow pupils, now in practice, there has occurred an instance, in which, without occasion for a subsequent regret, they have relied upon this simple means, at once for the preservation of their own reputation, and the salvation of a mother's life.—I am, sir,

Your obedient servant,

J. W. STAPLETON, M.R.C.S.

Trowbridge, Wilts, Nov. 16, 1841.

MEDICAL GAZETTE.

Friday, December 10, 1841.

“Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso.”

CICERO

THE SUICIDAL MANIA.

THERE is a kind of medicine which is to be studied, not at the bed-side, but in the streets; of which the records are not case-books, but newspapers; the physicians not diplomatized medi-

cal practitioners, but police magistrates, and the other dispensers of the law. Of this kind of medicine we have been witnesses of a striking instance in the mania which has recently reigned for suicide, and the successful remedy yet more recently prescribed and applied for it; and although each several event might have but little interest in a scientific view, yet the whole history affords so striking a fact in the pathology of the mind, that we venture to bring it thus prominently forward.

The circumstances are briefly these,—that for about two months an extraordinary number of suicides, and of attempts at suicide, occurred in London; scarcely a night elapsed but one or more persons threw themselves from some bridge, or from the bank, into the Thames (for that was the favourite mode of self-destruction); till at last the police looked on such an event as a thing to be certainly expected and guarded against. The greater number of the persons thus endangering their lives exhibited no common character of insanity—had not been regarded as of unsound intellect—had no cause of utter despair—had scarcely any delusion or mistaken motive. When their lives were saved, they did not give any extravagant reason for the attempt; at most they had been vexed by some untoward circumstance, had had some domestic quarrel, or were poor, though hardly destitute. The fury of the epidemic (which affected women more than men) was increasing to a truly alarming extent, when one of the city magistrates (Sir Peter Laurie, who had probably had some advice tendered him at Bedlam, of which he is the President) determined to try the effects of punishment on all who were brought before him for attempts at suicide. The plan succeeded admirably; some were punished summarily, some were

committed to take their trial for attempts at the felony of self-murder; and in a very short time (a fortnight at most) the rage had disappeared, and suicides became no more than usually common.

Now the history we have thus briefly given is far from being without a parallel. The singular tendency to imitation, which seems inherent in man, and which is, perhaps, connected with our love of uniformity, without which we hardly acknowledge that beauty can exist, determines a temporary custom, a fashion, of suicide, as it does of every thing that is most familiar to us. And that it should do so is not surprising, seeing how completely it is in numerous instances (such as the custom of our dress, our buildings, &c.) independent of the understanding; and considering, moreover, how much the passion must, in every man, gather strength by being constantly, in a number of little things, permitted to follow uncontrolled its own course. It guides every man daily in his most ordinary habits, without himself being aware of it; and it is only when it shows itself in some new form, such as it has assumed of late, that we notice it, or find reason to suppose that it is one of our most constantly guiding principles of action. The facts just related are only an additional instance of suicides from a desire to imitate: many others are known; the two successful, and the third attempted, suicides by precipitation from the Monument, are in every one's memory: a similar mania once existed in Paris for jumping from the Column in the Place Vendôme; and from any work on insanity we could quote many more if we were writing for the public eye.

Neither is the remedy which has now been adopted a novel one; it has been often tried, and has been as often found successful. The most remarka-

ble instance of its beneficial influence that we remember happened at a garrison, in which a strange disposition existed among the soldiers to hang themselves on lamp-posts. Night after night were suicides of this kind committed, till the commanding officer issued a notice, that the body of the next man who put an end to his life should be dragged round the garrison at the cart's tail, and then be buried in a ditch. His order was but once put in force, and then the epidemic ceased. So that it may be taken as a general rule, that the fear of punishment or of disgrace is the feeling best adapted for the correction of the desire to imitate in self-destruction.

But what strange facts are these in the history of the human mind! A man who does not fear to take his own life in a love of imitating others, and in a fit of slight vexation, or unreasonable despair, yet greatly fears to be punished by a short imprisonment if he do not succeed in his attempts at self-destruction, or by having his corpse dishonoured if he do. Nothing surely can show more strikingly the care with which our lives are fenced round. Besides that power of recovery which our bodies, when actually injured, naturally possess, and that fear of pain and death, which we have in common with the brutes, to lead us to avoid every instrument of harm, here we find parts of man's mind, peculiar affections, passions, and fears, of which one of the final purposes is the preservation of his body. In other words, lest any of those mental faculties which the Creator has given peculiarly to man, should, being misused, lead him to the voluntary destruction of his life, we find that he has other desires given him to balance *them*, and to preserve his body against the violence with which, under their influence and desire for gratification, he might lay hands on it: so that when

brute instinct, imperfect religion, and such a partially cultivated reason, as the majority of men possess, are all insufficient, there yet remain still more powerful feelings in the mind, for the sake of which they refrain their self-murderous hands. How admirable a proof of the *one* economy of the human mind and body !

But, again, these histories utterly defy us rigidly to define insanity. We are not sure if among the number who lately thus attempted suicide there was one incapable of managing his own affairs, or who either before or since manifested any signs of a more disordered intellect than that of his neighbours. Nothing surely can show more plainly that our definition (if it can then deserve the name) must be conditional, and must have respect to the habits of society, and to the act committed, or required to be done by him respecting whom the question of insanity is raised ; in other words, they show that we must, in each case, endeavour to determine, not whether a man is to be called sane or insane, but whether he is mentally fit for this or that purpose, or justly responsible for this or that act. A man would be very unwise who would decide that one of these people having attempted to commit suicide was *therefore* incapable of making his will (for example) ; or not responsible for a crime committed upon another. The result of the treatment in these cases proves that men, with whom other motives are not strong enough to keep them from self-murder, may yet be restrained from it by knowing that they will be punished for the deed ; and surely nothing more can be needed to prove that they are, in the strictest sense, responsible beings ; that is, that they may be justly called on to answer for their deeds both to themselves and others, for their responsibility is clearly that which has more influence

upon their conduct than any other consideration whatever.

Nor can any thing afford a more thorough refutation of that favourite notion, founded on a most false sympathy, that a man's attempting to take his own life is sufficient evidence of his insanity, because self-preservation is so natural to all creatures, that no sane person could do otherwise than strive after it. Why, without the evidence of cases such as these, no notion can be more unreasonable. The very peculiarity, the honour, of man is, that he has a reason which often guides in a direction counter to his *natural* propensities ; that is (as the word commonly imports), to those propensities such as to take care of his body, and others, which are common alike to himself and to brutes. It is this reason of which man alone is bound by his better nature to obey the dictates, though to do so may inflict violence on his affection for the objects of his more immediate desire. Hence it is that man alone can be, or can have the honour of being, a martyr or a patriot *to the death* ; that is, can sacrifice his present life for the hope of a future one, or for the good of others. But the absence of these good motives cannot prove a man insane ; though voluntary self-devotion in a good cause does prove that life is not the thing which a man must *naturally* most desire ; and that therefore bad or erroneous motives may lead a man to self-destruction without proving his merit to the title of madman, or showing more than that he has erred as much in an important matter as he had probably before erred daily in things of far inferior interest. There are many arguments, of which none but religious and very wise persons can see the fallacy, which would lead a man to self-destruction as soon as the prospects of his life are clouded over ; nay, which have led many who still pass

for wise men, such as some of the school of Stoics, to it, as the best and most reasonable course they could pursue.

Need we point out how these cases afford another proof, though of a very different kind from those commonly adduced, of the propriety of treating those who are, or who seem to be, insane, in the same manner as if they were thoroughly rational? It is quite plain that for all these cases, the best method of preventing suicide is, to treat it as a punishable offence, that is, as the evil deed of a responsible man; to make no difference, *primâ facie*, between suicide and homicide. They show, also, the power which is in the hands of coroners' juries to put a check upon this fearful practice by bringing in, in every case where the contrary is not clearly indicated, such a verdict as may lead to the body of the responsible self-destroyer being deprived of that respectful treatment which seems to all men an object of anxious desire. No sympathy can be more unsound than that which dictates men to believe a suicide *ipso facto* insane; nor can any be attended with worse effects. Make all suicides objects of pity, of sympathy, and of respect, and they will not be rare: but put them on the level with homicides, let the bodies of all be disgraced in whose cases there are not plainly circumstances that proved them to be irresponsible to themselves (and, for their last deed, to their Maker), and then will the number of these criminals diminish yearly. In a word, let juries act towards the dead in the same spirit as the magistrates have acted to the living, and they will soon very materially diminish their own and the coroners' labours.

DEATH OF DR. BIRKBECK.

WE regret to announce the death of Dr. Birkbeck, which took place on Thursday, the 2d inst., at his house in Finsbury Square. The following account of him is taken from the *Times*:—

The grave cannot be permitted to close over the remains of this estimable man, without some tribute of respect for his worth being paid in the columns of a public journal. He was a Liberal in his politics; but science is of no party: over it and its votaries the storms of party war and civil strife should alike roll innocuous. The subject of this sketch never allowed party motives to influence the exercise of his beneficence; and those who have exerted themselves to ameliorate the condition of their fellow-men are entitled to commemoration, whatever be their political or religious creed.

Dr. Birkbeck was the son of a merchant and banker of considerable eminence at Settle, in Yorkshire, where he was born in the year 1776. After receiving the usual rudiments of education at a village in the neighbourhood, during which he displayed a strong inclination for those mechanical pursuits to which he afterwards became so devoted, it was determined by his friends that he should embrace the medical profession. This choice was perhaps to be regretted, for such a pursuit was undoubtedly unsuited to his natural bent. Had he been encouraged to follow his own inclinations, he might have rivalled the discoveries of Arkwright or Watt. But, unhappily, at this period, and for nearly half a century afterwards, it was customary for every man who had three sons to bring up one as a lawyer, a second as a medical man, and a third for the church; as if the mental, physical, and moral state of the community could ever be in such a lamentable condition as to afford employment to such a disproportion.

After studying his profession in the first instance at Leeds, he removed to London, where he had the good fortune to become a pupil of the celebrated Dr. Baillie, whose friendship he retained until death put an end to that illustrious man's career. Afterwards he removed to complete his education in Edinburgh, then in the zenith of that fame as a school of medicine, which by means of nepotism, mismanagement, and conceit, it has subsequently lost. Here also he had the happiness to form a friendship with Brougham, Horner, Jeffrey, Scott, and others of that race, who were then beginning to blaze in the northern capital

with a splendour such as its past annals had not seen, and its future are not likely to see. But while cultivating this brilliant society he did not neglect his scientific pursuits, and in these he had made such attainments, that before the 22d year of his age he was appointed Professor of Natural Philosophy in the Andersonian Institution of Glasgow.

It was while in this situation that Dr. Birkbeck laid the basis of those mechanics' institutions, in association with which his name has chiefly attracted present notice, and will engage future remembrance. With liberality rarely evinced in such quarters, he invited the mechanics of the city to a gratuitous attendance on his lectures; and it was in consequence of their grateful acknowledgment, and the benefit that flowed from the practice, that he was induced, on his removal to London, to project the foundation of Mechanics' Institutions in the metropolis and throughout the country. Nor was it his time alone that was devoted to this laudable object, his purse was not less freely bestowed. We believe he lent £3000 to establish the London Institution in Chancery Lane, and by a singular coincidence, the members of that body were to meet for the purpose of celebrating its 18th anniversary within a few hours of the period when its founder had ceased to exist.

As a medical man, Dr. Birkbeck enjoyed considerable practice, much more so than is generally bestowed on those given to scientific or literary pursuits.

In personal appearance Dr. Birkbeck was a man between 60 and 70 years of age, with a quiet, reflective, beneficent countenance, a venerable and very unpretending aspect. In his disposition he was mild, and in his deportment unassuming. As a public speaker he acquitted himself with credit; his ideas were always sound and practical, conveyed in appropriate language. These remarks have been drawn from one not accustomed to bestow undue praises on a member of the faculty; but in the language of Junius, "the panegyric will wear well, for it has been nobly earned."

DEATH OF DR. D. D. DAVIS.

WE regret to have also to announce the decease of Dr. D. D. Davis, lately Professor of Midwifery in University College, an appointment which he only resigned a few weeks ago. Dr. Davis was in his 64th year. He published various useful works on obstetric medicine, and we believe was naturally a man of considerable talent.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

November 23, 1841.

J. COPLAND, M.D. F.R.S. IN THE CHAIR.

A Case of Aneurism of the ascending Aorta bursting into the right Ventricle. By THOMAS J. BECK, Esq., Lecturer on Surgery at Sydenham College. Communicated by Dr. Robert Lee.

ON examination of this case after death, a communication was found to exist between the ventricles. The aneurismal sac, which resembled the finger of a glove three-fourths of an inch in length, had burst at its extremity into the right ventricle. The author observes upon it as follows:—It has been questioned whether the opening between the aorta and right ventricle was an original malformation, having the same probable origin as the opening between the ventricles, or whether this is the remains of an aneurismal sac; but from the history of the case, the situations of the openings, the extent and nature of the disease found around it (being the same as is found around other aneurismal sacs), the latter appears the most probable conclusion, which is considerably strengthened by a reference to the cases detailed by Mr. Thurnam in the twenty-third volume of the Transactions of the Society, and from an examination of the preparation.

Dr. Addison said that he had seen the case referred to by the author, and related by Mr. Thurnam, which had occurred at the Westminster Hospital, in which the physical signs bore on the whole a remarkable resemblance to those of the case just read. In that case the most prominent sign had been a remarkable vibrating sensation communicated to the hand, and having apparently a very superficial source. This was so marked as to be disagreeable soon to the patient, and it produced a sensation that might almost be compared to that of a galvanic shock. The opinion formed by Mr. Thurnam of this case was, that there existed some unnatural communication between the right auricle and ventricle. The result, however, proved the existence of an aneurism of the aorta just above the semilunar valves, from which a large communication had formed into the right ventricle. He had desired to know the state of the right ventricle in the present case, and especially whether its walls were much thickened, because the extreme degree of dropsy which had existed, afforded reason to suppose that the chief obstacle to the circulation had been on the right side of the heart. In a case which had lately occurred in his own practice, there had been this excessive dropsy: and on examination he had found the usual proportion of the heart's cavities just reversed; that is, the far

greater part of its mass was formed by the right side: the right ventricle formed the apex, and the right auricle was dilated far beyond its usual proportions.

Dr. C. J. B. Williams said that he also had seen the case at the Westminster Hospital. That which appeared to him the most striking sign was, that the peculiar rasping sound was prolonged through the whole period occupied by both the sounds of the heart, and faded away only during the pause. This had at the time led him to believe that it depended on some disease of the artery; and the diagnosis he formed was, that there was an aneurism of the aorta having some unusual communication. The result proved that he was in a measure correct, but that there existed something beyond what he had expected. There had been in that case a sign, which he believed had not received sufficient attention in the diagnosis of aneurism of the aorta, namely, a very widely diffused dulness on percussion. This and some other circumstances led him to think that, in general, aneurisms were much larger during life than they appeared after death, when, unless there were some large deposits of fibrine within them, maintaining their sacs at a definite size, they, like the arteries in general, contracted as soon as the pressure of the circulating blood was removed from them. The dulness on percussion, in the case alluded to, could not have arisen from effusion into the pericardium, as some had at the time supposed; for its seat was too high, and its extent had not the same boundaries as the dulness in such effusions.

Dr. Addison said that the peculiar rasping sound, heard in the case at the Westminster Hospital, could not easily have been confounded with that of regurgitation through the mitral orifice. It was altogether of that peculiar kind met with only in such cases as varicose aneurism, and it was quite superficial; a character which was never observed in cases of regurgitant disease. As to the extensive dulness in cases of aneurism of the aorta, he could not on this subject agree with Dr. Williams. Every one must have met with examples of such aneurisms in which there had been little or no unnatural dulness on percussion.

Dr. Williams said the superficiality of the sound was no evidence that it was not seated at the mitral orifice: he had met with many cases of disease of that orifice, where the sound had seemed immediately beneath the sternum; with so many, indeed, that he was surprised to hear Dr. Addison say they never occurred. With respect to the dulness on percussion in aneurisms, he did not mean to say that it was alone sufficient for diagnosis, but only, with other signs, important evidence. He had never met with a case in

which it was possible, with any confidence, to suspect the existence of aneurism of the aorta, in which this unnatural dulness on percussion was not present.

Dr. Addison briefly explained.

On the Structure of the Human Placenta.

By JOHN DALRYMPLE, Esq. Assistant-Surgeon to the London Ophthalmic Infirmary.

In the early part of the present year, the author having pursued some anatomical investigations of the structure of the human placenta at the term, and having made several drawings of the injected capillaries of the tuft, afterwards had an opportunity of seeing the copies of Weber's drawings given in the *Icones Physiologicæ* of Wagner, and transferred to the pages of Dr. Willis's translation of the latter author's *Physiology*.

The resemblance of the present drawings to those given by Dr. Willis was so striking as to go far, of itself, to prove the correctness of both draughtsmen, and to corroborate the views entertained by Weber of the anatomical conditions of the organ. They differ also from the engravings of Dr. Reid (given in the January number of the *Edinburgh Medical and Surgical Journal* for 1841), inasmuch as no where could be seen an artery and vein running side by side, forming an apparently single vessel, though with a double tube, and terminating abruptly in blunted extremities, where the anastomoses took place between them.

It appeared from Mr. Dalrymple's observations—

1. That the placenta was made up of the innumerable subdivisions of the umbilical vessels, terminating in beautiful coils and convoluted capillaries, which formed tufts or bouquets of vessels clothed by a prolongation of the endo-chorion derived from the foetal surface of the organ.

2. That nowhere did a division of an umbilical artery terminate otherwise than in a branch of the umbilical vein; and each branch, as well as tuft of vessels, was covered by a prolongation of the before-named membrane.

3. Thus each tuft was, in fact, a real villus: the endo-chorion being covered externally with an epithelium-like tissue, having nucleated cells and corpuscles.

4. The uterine surface of the placenta is covered by the decidua, which does not appear to enter further into the structure of the organ than between the lobules; and the depth to which it thus penetrates varies with the depth of the fissures.

5. That fibrous bands stretch from the foetal to the placental surface of the organ, giving firmness and support to the vessels.

6. That there are no defined cells in the placenta, but that the nutrient fluids of the

mother are poured into the interstices of the tufts, which are not bound or connected together by a common cellular tissue.

7. That on the decidual surface of the placenta are thinly scattered, here and there, blunt conical papillæ, about a line and a half in length, made up of innumerable coiled and contorted capillaries. Query.—Are these the analogues of the foetal cotyledons of the ruminant?

From these observations, which were given in a minute detail, the author has attempted to simplify the functions of the human placenta.

He observes, that in the incubated egg, in consequence of the non-connexion between the embryo and parent, that a nutrient and a respiratory organ is indispensable, and hence the more complicated system of vessels. That in the oviparous vertebrata, the vitellary sac and the omphalo-mesenteric vessels represent the placenta of mammalia, which is the absorbent organ of the foetus. But while in the one case the nutrient materials of the mother, already aerated by her lungs, are conveyed by the uterine arteries for absorption and nutrition of the embryo, in the other the materials of the blood are absorbed by the folds of the vitelline sac, and conveyed through the circulation of the young bird, requiring, however, contact with oxygen for a second circulation: hence a new membrane, or one that is persistent up to the time of independent respiration, viz. the allantois: and hence also the more complicated system of its vessels. The allantois, as a respiratory membrane, exists only as a rudimentary organ in mammalia, and the function of the placenta being solely that of nutrition by already oxygenized materials, the cord contains only a simple system of incurrent and excurrent vessels.

Some observations were made by Dr. Robert Lee, Mr. Oldham, and Mr. Dalrymple, in explanation of the views maintained in the paper (which Dr. Robert Lee confirmed), and the society then adjourned.

MEDICO-CHIRURGICAL SOCIETY OF EDINBURGH.

THIS Society has recommenced its meetings, and the following Office-bearers have been appointed:—*President*—David Maclagan, M.D. F.R.S.E. *Vice Presidents*—Wm. Brown, F.R.S.E.; John Gairdner, M.D.; Professor Simpson.—*Councillors*—J. S. Combe, M.D.; W. H. Thomson, M.D.; Patrick Newbigging, M.D.; William Henderson, M.D.; John Moir, M.D.; James Miller, Esq.; John Goodsir, Esq. *Treasurer*—Robert Ormond, M.D. *Secretaries*—Douglas Maclagan, M.D.; Jas. Duncan, M.D.

LIFE INSURANCE OFFICES.

To the Editor of the Medical Gazette.

SIR,

I WOULD beg to put in one word to clear, if possible, the question at issue between Mr. Harvey, of Castle Hedingham, and the Clergy Mutual Insurance Office; as it appears to me that neither party are reasoning on quite correct premises.

The Insurance Office says to the Rev. Mr. —, we will insure your life, if you will bring us a certificate of your soundness from your own medical man.—The Rev. Mr. — asks his medical attendant, as a favour to himself, to supply this certificate. If he cannot prevail on him to do this, the contract between the office and Mr. — falls to the ground, for without producing this certificate, he cannot be insured.

The matter, therefore, of remuneration for the trouble, rests between the Rev. Mr. — and his medical friend. The Insurance Office declines insuring his life without this testimony, which they inform him, *in limine*, they require him to produce.

It makes no difference in the question, whether the Rev. Mr. — brings this certificate to the office himself, or whether he authorizes the office to apply for it in the usual way, by inquiries addressed (by his own desire) to his medical friend and referee, whom he has requested and authorized to answer such inquiries about himself.

It appears to me, therefore, that the claim of the medical attendant ought to be on his patient, and not on the Insurance Office.

As to the allegation, however, of the Insurance Office, that the fee ought not to come from them because the directors have no salary. It appears to me to be a sophism, and not worthy of a moment's consideration. What is it to any one else, whether they labour for nothing, or for pay? They are surely moved by an adequate motive to act as the executive, and if any fair demand is made on the institution, they (the directors, whether paid or not) are bound to tax the proprietary, and pay the debt.

The ground on which the office should have declined paying the fee, should have been, that their first condition with the individual applying for insurance is, that he should bring with him a certificate of soundness from his own medical man, or enable them to obtain the requisite information from the same quarter.—Yours &c.

MEDICUS.

London, Dec. 6, 1841.

THE VACCINE.

To the Editor of the Medical Gazette.

SIR,

IN your number of yesterday, the 26th inst., I have been struck by a quotation (in Dr. Baron's letter) from a report on the Topography of Tatta on the Indus, by Dr. Winchester, respecting the existence of a disease in the camel producing a pustular disease on the hands and arms of the milkers, rendering them exempt from attacks of the small-pox, which is occasionally endemic in the district. This statement corroborates one made many years ago by the late long-lost Mungo Park. I have not the immediate opportunity of referring to his published Travels, and cannot actually say that the same fact is mentioned therein; but I well recollect his frequently telling me, when he was in England previously to his last fatal expedition, and when conversing on the merits of vaccination, and smiling at the absurd prejudices then afloat against introducing into the human constitution a bestial disease, that he believed small-pox to be also a bestial malady, imparted by the camel, as the vaccine was from the cow, because he had seen the eruptive disease in the former, and had witnessed it in its most virulent form in Africa among the natives, who supposed that they traced the original infection to that animal. In his observation, therefore, in Africa, the disease would appear to have pervaded the whole body, like the variola (and indeed to have been identical with it), and not to have been confined solely to the hands and arms, as it seems to be in the district on the Indus, as described by Dr. Winchester. I mention this circumstance with the sole view of corroborating the statement alluded to in Dr. Baron's communication.—I am, sir,

Your obedient servant,
A SUBSCRIBER.

London, Nov. 27, 1841.

EARTH EMPLOYED FOR FOOD IN CHINA.

IN the analysis which he has made of this earth, M. Payen has found 50 per cent. of silex, and a certain quantity of magnesia and alumina. It contains also a little organic matter, which has a remarkable aromatic odour, and a slight taste like pepper: this yielded, on analysis, a very small quantity of azote. M. Payen thinks this earth might be useful for manure; and that, in this respect, it would be interesting to study its composition.—*Gazette Médicale*, Septembre 25, 1841.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, December 2, 1841.

T. G. Heathcote, Mansfield, Notts.—W. Copeland, Staindrop, Durham.—W. J. Bowden, Guernsey.

A TABLE OF MORTALITY FOR THE METROPOLIS,

Shewing the number of deaths from all causes registered in the week ending Saturday, Nov. 27, 1841.

Small Pox	3
Measles	39
Scarlatina	17
Hooping Cough	59
Croup	13
Thrush	1
Diarrhœa	3
Dysentery	0
Cholera	0
Influenza.....	2
Typhus	20
Erysipelas	3
Syphilis	0
Hydrophobia.....	1
Diseases of the Brain, Nerves, and Senses ..	134
Diseases of the Lungs, and other Organs of Respiration.....	265
Diseases of the Heart and Blood-vessels	20
Diseases of the Stomach, Liver, and other Organs of Digestion	64
Diseases of the Kidneys, &c.....	1
Childbed	10
Ovarian Dropsy	0
Disease of Uterus, &c.	1
Rheumatism	3
Diseases of Joints, &c.	2
Ulcer	0
Fistula	0
Diseases of Skin, &c.	0
Diseases of Uncertain Seat	129
Old Age or Natural Decay.....	79
Deaths by Violence, Privation, or Intemperance	19
Causes not specified	5
Deaths from all Causes	893

METEOROLOGICAL JOURNAL.

Kept at EDMONTON, Latitude 51° 37' 32" N.
Longitude 0° 3' 51" W. of Greenwich.

December.		THERMOMETER.	BAROMETER.
Wednesday	1	from 41 to 49	29'30 to 29'31
Thursday	2	40 50	29'39 29'22
Friday	3	46 54	28'95 28'99
Saturday	4	40 50	29'15 29'40
Sunday	5	39 49	29'81 29'95
Monday	6	36 52	29'52 29'65
Tuesday	7	33 48	29'79 29'74

Wind, S.E. and S.W.
On the 1st inst. a general overcast, rain in the afternoon and evening. The 2d, morning clear, otherwise overcast. The 3d, overcast, raining nearly all the day, and heavily at times. The 4th, afternoon cloudy, with rain; otherwise clear. The 5th, morning clear, afternoon and evening cloudy. The 6th, evening clear, otherwise overcast; small rain fell nearly all the day. The 7th, morning clear, otherwise overcast; small rain fell in the evening.
Rain fallen, one inch, and .035 of an inch.
CHARLES HENRY ADAMS.

WILSON & OGILVY, 57, Skinner Street, London.

THE LONDON MEDICAL GAZETTE,

BEING A
WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

FRIDAY, DECEMBER 17, 1841.

LECTURES
ON THE
PRINCIPLES AND PRACTICE OF
PHYSIC,

Delivered at King's College, London,

BY DR. WATSON.

Phthisis continued. Diagnosis. Forms and varieties of Phthisis. Ordinary duration. Age at which it is most frequently fatal. Influence of sex; and of occupation. Question of Contagion. Treatment.

IN a former lecture, the twelfth of this course, I entered somewhat fully into the *pathology* of scrofulous and tubercular diseases in general. I pointed out the fact, that though such diseases affect vast numbers of persons, and are most extensively fatal, yet that they affect almost exclusively certain *classes* of persons. That while some are so prone to tubercular disease, as to fall into it upon the operation of the slightest external causes, or even spontaneously—nay, in spite of every care to the contrary—others again, who are constantly exposed to influences likely to call scrofulous disease into action, either do not suffer therefrom; or if they do become scrofulous, it is only when the external circumstances most favourable to the production of such disease have been intense in degree and protracted in their application.

At the same time I shewed you how commonly the *disposition* to scrofula descends in families: and I told you what observation has collected in respect to the *causes* which may *excite* scrofulous disease in persons *hereditarily disposed* to it. I shall not therefore go over that ground again. What I then said of scrofulous disease in general is true of tubercular consumption in particular. I will merely remind you that these exciting

causes are essentially causes of *debility*. Whatever tends to depress the vital powers, and permanently to weaken the body, tends also, in a predisposed frame, to engender or to call forth this fearful and most destructive malady.

Diagnosis.—With respect to the detection of tubercular disease in the lungs, it is sometimes very easy, sometimes extremely difficult. It is easy when the tubercles are numerous, large, or far advanced: difficult sometimes when they are crude, scanty in number, and thinly scattered, and individually small. In the latter case they may not cause any appreciable deviation from the natural resonance of the chest on percussion, or from the natural smooth equable rustle of the breathing. It would be tedious to travel over again all the auscultatory and other symptoms, with the view of pointing out their bearing upon the diagnosis. I touched upon that point incidentally, when discussing the individual symptoms, in the last lecture. Many of the symptoms tell their story so plainly that any attempt to expound or interpret them would be quite superfluous. One or two cardinal points, however, which have rather been hinted at before than expressed, I may just advert to.

The fact that tubercles occupy the *upper part* of the lung by preference, is of great moment as respects the diagnosis. When the symptoms are equivocal; when, as far as *they* are concerned, the case may either be one of chronic bronchitis, or of tubercular consumption; a careful examination of the superior regions of the chest will often decide the anxious question. The sound resulting from the first gentle tap upon or beneath the clavicle, often rings in the physician's ear the knell of his unfortunate patient. Even unusual distinctness of the sound of *expiration*, if heard at the summit of the lung, and *à fortiori*, if at the summit of one lung only, warrants the terrible suspicion that tubercles are breeding in that lung. It may, indeed, be laid down as a rule, which is scarcely

diversified with any exceptions, that if you find dulness on percussion, or coarse or insufficient breathing, or undue resonance of the voice; or a click or morbid noise of some sort when the patient respires, or speaks, or coughs; if you find this day after day and always, between the clavicle and the mamma in front, or between the clavicle and upper edge of the scapula, over the top of the shoulder, and no where else; and more especially if these deviations from the healthy sounds be greater on one side than on the other, or different in quality on the two sides; you may set the case down as a case of tubercular phthisis. On the other hand, if in the same parts you still distinguish all the natural sounds of the respiration, and can still obtain a clear sound on percussion, you are not to condemn the case, nor to despair of recovery, whatever its other circumstances may be. The worst symptom certainly, when auscultatory signs are wanting, is hæmoptysis.

Incipient consumption is most liable to be confounded with chronic bronchitis. Yet the leading features of the two are well contrasted. The morbid sounds belonging to chronic bronchitis are chiefly audible in the lower lobes of the lungs: those of phthisis in the upper. Some degree of expectoration attends the cough of bronchitis from the first: the cough of phthisis is often, for a long while, dry. Simple bronchitis is not accompanied by hæmoptysis. The pain that occurs in bronchitis is felt beneath the sternum: in phthisis pain most commonly affects the sides, and the space between the shoulders. It is enough, I trust, to have drawn your attention to these points, without dwelling upon them longer.

Forms and varieties of the disease.—Dr. Latham, in the little work which I have several times referred to, has laid down certain distinctions most deserving of your notice in respect to the various *forms* of phthisis. This portion of his book is quite original. The facts indeed have long been known; but they have never before, that I am aware of, been made so instructive, by being clearly disposed, and exhibited in their proper bearings.

He first divides phthisis generally into two forms, which he calls *mixed* phthisis and *unmixed* phthisis. And he illustrates what he means by those terms very simply and skilfully. He takes the case of an absorbent gland in the neck, affected with scrofulous disease. The changes which are liable to take place in it are wrought before our eyes: we have the privilege of watching them. Now such a gland will sometimes enlarge, in consequence of the deposition of tubercular matter in its substance: it will grow large and hard without there being any pain, or heat, or redness, observable; and

it may remain in that state for weeks, or months, or years.

But in the majority of instances the absorbent gland, after remaining for a certain time in this condition, will undergo, and give rise to, other changes. Pain and heat and redness will ensue; and the hard gland will soften; and the integuments will grow thin, and at length give way; and the softened tubercular matter, mingled with pus, will escape; and then the pain and heat and redness—the inflammation, in short—will disappear; and the abscess will heal, leaving behind it nothing more than a slight scar. And this process may happen to one such gland, or to more than one, *simultaneously*; or to several in *succession*.

In this case there has been no more inflammation than was just enough to accomplish its purpose of removing from the body the tubercular matter. The inflammation has not transgressed what Dr. Latham has called its specific limit.

But again, it may go beyond that limit; it may be both more severe and more extensive than is necessary for the removal of the tubercular matter in the diseased gland. It may pervade the whole neck, giving rise to diffused redness, and swelling, and pain; and the whole of the subcutaneous cellular tissue between the angle of the jaw and the clavicle may be loaded with effused serum and pus.

All this you may see almost any day in the wards or waiting-rooms of a hospital. And Dr. Latham has happily chosen this affection of the cervical glands to elucidate what happens when the tubercular matter is deposited in the *lungs*, where one cannot see the changes it is suffering or producing.

Tubercles in the lungs may remain for an indefinite period of time, in their crude state; never softening at all, or only softening at a very late period. Or they may give rise to just so much of inflammation, and no more, in the pulmonary tissue surrounding them, as is sufficient to bring about their own softening and subsequent expulsion. Or, lastly, the tubercles may excite much more inflammation of the lung around them than is requisite for their elimination: inflammation of every degree, and of any extent.

Now to the two first cases, when they occur, he gives the name of unmixed phthisis: the third he calls, on the other hand, mixed phthisis. We learn from auscultation whether the case be one of mixed or of unmixed consumption; *i. e.* we hear, in the unmixed forms, the sounds or the modifications of sound which result from the presence of tubercles or of vomicæ; and we hear these morbid sounds only; in every part of the lung where they are *not* audible, we hear the vesicular murmur of health. But in the mixed form we also hear these

sounds. True, and we hear other morbid sounds beside. The tubercular disease is mixed with common inflammation; and we hear the sounds that denote common inflammation of the mucous membrane, or of the substance of the lungs—sibilus, or large or small crepitation—we hear these sounds *mixing* themselves with the sounds which belong to the tubercular affection.

This distinction is of considerable importance, for it concerns the *treatment* of the malady. The tubercular disease, when established, is beyond our power. The inflammation which is incidental to it we may hope to alleviate or to remove. It is in the stage of vomicæ that the disease commonly assumes the mixed character; and sometimes the bronchial or vesicular effusion upon which the added sounds depend, may be got rid of by the seasonable application of a few leeches, or of cupping-glasses, or of a blister, or by a moderate bleeding from the arm, and the disease be brought back again, for a time at least, within its specific limits; and the patient be relieved from much distress, and imminent danger. It is upon this principle that Dr. Latham explains the fact that most consumptive patients improve considerably, soon after their admission into the wards of a hospital. The poor are necessarily much exposed to those causes which tend to complicate the tubercular disease. The tubercular disease may as yet be slight and limited; but the superadded mischief, the bronchial and vesicular effusion, may be immense; and this being submitted, often for the first time, to treatment, upon their admission to a hospital, is for awhile removed.

Now if we had not the advantage of the method of auscultation, we could not ascertain these differences, nor detect them when they existed. You will perceive, I am sure, their practical importance.

Of course the more ready the surrounding lung is to take on inflammation—in other words, the stronger the disposition in the complaint to assume the mixed character—the more rapidly fatal is it likely to be.

But of the unmixed form of phthisis Dr. Latham has made two interesting varieties: and the truth of the distinctions he has drawn will be more manifest to you, the more you see of this terrible disease. In one of these varieties the lungs are apparently tenanted by a multitude of tubercles, which remain crude and unaltered for a considerable length of time. In the other, successive *crops* of tubercles appear to form: or at any rate the tubercles ripen and are expelled in successive crops: and there may be long intervals between each crop and the next.

Dr. Latham thus describes the former of these two varieties.—“An individual loses the complexion of health, and becomes thin; he coughs a little; but perhaps he has no

notable fever, and no constant acceleration of pulse.” If the ear be applied to his chest it is found that there is dulness beneath one or both clavicles, or about one or both scapulæ, and imperfect respiratory murmur in those parts; but the vesicular breathing is free and perfect in every other part of the lung. Here we have tubercles, crude, and in the upper lobe alone: and this state of things may endure for years, without variation; the patient remaining always a great valetudinarian. “To such a patient (says Dr. Latham) it is a continual puzzle why he does not get well. He consults an infinite number of medical men; and it is remarkable that he gets no comfort or satisfaction from those who understand his disease the best, and the greatest comfort and satisfaction from those who understand nothing about it. Those who know what it is, out of kindness do not tell him the truth, and they cannot asseverate a falsehood stoutly enough to carry any weight with it: whereas they who know nothing about it affirm boldly and unhesitatingly that it is *all stomach*: really believing that the whole and sole disorder is in the stomach, and that it is within the reach of an easy cure.”

But at length—perhaps after a very long period—vomicæ are formed; and then the patient sinks rapidly, and the lungs after death are found riddled by cavities and stuffed with tubercles; but every part of them not occupied by tubercles or vomicæ is crepitant and healthy. In these cases the disease lingers long in the crude stage: new tubercles are added, probably, year after year; but none of them soften. They do not excite inflammation in the lung around them. You recognise the presence of the tubercular matter by the ear; but there are no vomicæ. At last vomicæ are formed, many at the same time or in rapid succession, and the patient presently succumbs.

The other variety of unmixed phthisis may be just as protracted as this; but its character and progress differ materially. In the former case the patient's condition was one of invariable ill health; in the one I am about to mention he has fits of ill health, and fits of comparative good health. He spits for a time considerable quantities of puriform matter, and then ceases from expectorating altogether. He has hectic fever, and then throws it off, and then suffers it again: wastes, and recovers his flesh, and again loses it. You will find such cases common enough; and in these cases the morbid sounds will be correspondent to the symptoms. During the fits of illness you will hear gurgling respiration or gurgling cough at the apex of one or both lungs: and during the fits of good health you will hear cavernous respiration or pectoriloquy in the same parts: but every where else you will hear a clear sound of vesicular breath-

ing. Here the tubercular matter excites just enough inflammation around it to achieve its own expulsion, and no more. The lung is destroyed bit by bit. Fresh portions of tubercular matter are deposited; these ripen and soften, and are expectorated, and a vomica is the result: and then there is a period of quiet. And there being still a large portion of each lung to breathe with, the patient regains more health and strength in the intervals of his attacks, than the former patient possessed habitually.

But in this form of unmixed pulmonary consumption, a period at length arrives when the patient does not revert to the former state of apparent health. The quantity of lung that has now been destroyed forbids it. You may hear the sounds proper to tubercular disease over a large space, between the clavicle and the mamma, or any where about the scapula, on one or both sides; yet still that part of the lung which is free from tubercles and vomicae is pervious and healthy: but the hectic continues, the emaciation increases, and the strength declines; and the fatal consummation arrives.

Of these two varieties of genuine and unmixed consumption, the first is the most hopeless. The tubercles are numerous; they probably go on increasing in number though they do not soften; there is not, and there cannot be, any even temporary return to health, either real or apparent.

Whereas when the tubercles come singly, or in successive crops, and rapidly soften, and are expectorated; and where some long time interposes between the crops; the health and strength return, and there is just a chance that no more tubercles may form. It is in this variety of unmixed phthisis that a natural cure, by the contraction and cicatrization of a vomica, may by possibility take place. We cannot expect, and we must not permit ourselves to encourage hope, that the disease *will* cease in that manner: but if it ceases in any form of the malady, it is in this.

This grouping of the different characters under which pulmonary consumption may appear, has been performed by Dr. Latham with perfect fidelity. There is nothing overstrained or fanciful about his sketch; it is after nature; and it is by the hand of a master. And there is something very refreshing in original views of this kind. Vastly more instructive too they are, than those presented by a dull compilation. I therefore again recommend you to study his little volume. I am sure that *I* have derived much useful and usable knowledge from it: and therefore I may perhaps say without presumption, so also will you.

There is another form still of tubercular consumption which Dr. Latham has not

omitted to notice; but his observations on this form are not so new. It is a striking, but not very common form; and it is sure to arrest the attention of the practitioner when it does occur. I have met with three or four examples of it. The phenomena are of this kind. The patient has difficulty of breathing, cough, hæmoptysis perhaps, night-sweats, and much hectic fever: the symptoms in short which constitute the acute phthisis of some authors. But if you listen to the chest, you do not hear the sounds that are peculiar to phthisis: you do not find dulness confined to the upper lobes, or pectoriloquy, or gurgling respiration: but you rather find the superadded sounds which accompany mixed phthisis; small crepitation all over the lungs, succeeded by an absence or deficiency of the proper breathing everywhere. Meanwhile there will be none of the expectoration which is characteristic of phthisis. In short you would not suppose that the disease was phthisis at all. Yet it must be called such, for after death you find the lungs thickly bestrewed everywhere with what I spoke of before as the granulations of Bayle; nascent tubercles, myriads of them, gray and minute: what many persons call miliary tubercles. The tubercular matter, from some cause which we know nothing of, is thickly and uniformly sewn over the whole of the air-passages, or throughout the entire extent of the lungs, and its sudden presence there in such abundance excites inflammation, which masks and conceals the specific disease; and the true nature of the case is not suspected till after the patient's death. All the instances that I have seen—three or four only in number—were supposed by me to be cases of extensive inflammation of the lungs, and so indeed they were; but they were something more. The tubercles, doubtless, were the cause of the inflammation; and not the inflammation the cause of the tubercles.

Ordinary duration of phthisis.—From what I have been stating you will perceive how difficult it is to say what is the ordinary *duration* of phthisis; concerning which a question was put to me at the close of the last lecture. The disease may be present for some time without declaring itself by any marked or unequivocal symptoms; and therefore without attracting attention. But taking the cases as they occur, and estimating the duration of the malady from the time when it first manifests itself in a decided form, we find there is quite enough of variation to warrant the distinction that has been made by authors between chronic and acute phthisis; or, to use the more popular and more expressive phraseology, between slow and galloping consumption. The following tabular statement of the results observed by Bayle and Louis, will give you a somewhat

more precise notion of the general progress and duration of the disease. The whole number of cases noted was 314. Of these 24 died within three months; 69 between three and six months; 69 also between six and nine months; 32 between nine and twelve months; 43 between twelve and eighteen months; 30 within from eighteen months to two years; 12 between two and three years; 11 between three and four years; 5 between four and five years; 1 between five and six years; 3 between six and seven years; 1 between seven and eight years; 3 between eight and ten years; and 11 between ten years and forty years.

You will remark that, as far as this account goes, more than one-half of the whole number died within nine months from the time when the disease first became manifest. This agrees with the experience of the late Dr. Gregory, of Edinburgh. He used to state that the ordinary duration of phthisis was about six months; that sometimes it lasted only two or three months; and that he had seen one case which proved fatal on the seventeenth day after the symptoms were first observed. On the other hand, he had known one man who was at least 72 years old when he died, in whom symptoms of phthisis first appeared at the age of 18, and who was never free from them during all the intervening period; being often hectic, and frequently spitting blood. The *average* or *mean* duration of consumption has been computed to be about two years. This is a different thing, you will please to observe, from its *ordinary* duration.

There are many other points in the statistical history of phthisis well worthy of attention and enquiry; but I have not time to go into them in any other than a summary manner. This part of the subject is very well worked up in Sir James Clark's lucid and sensible book upon Consumption: but you will have perceived, from the references I have so frequently had occasion to make to M. Louis, that *his* work is the great storehouse or treasury of tabular information, in respect to the facts of tubercular phthisis.

Age at which phthisis is most frequently fatal.—It is an interesting question to determine at what period of human life consumption numbers the most victims. There are two short tables—one drawn up by Louis, containing observations relative to 123 cases, and the other by Bayle, respecting 100—which throw some light on the question. The two tables agree, in the main, very closely. Thus, from the age of 15 to that of 20, Louis met with 11 deaths from phthisis, Bayle with 10; from 20 to 30, Louis met with 39, and Bayle 23; from 30 to 40, Louis 33, Bayle 23; from 40 to 50, Louis 23, Bayle 21; from 50 to 60, Louis 12, Bayle 15; from 60 to 70, Louis 5, Bayle 8.

You see from this account how erroneous the common notion is, that consumption does not occur at an advanced period of life: that a person who has reached his thirtieth or fortieth year is thenceforth safe from that disease. From these two tables, and others collected by Sir James Clark, it appears that, taking decennial periods, the greatest number of deaths from phthisis happens between the ages of 20 and 30: the next greatest number from 30 to 40; the next from 40 to 50: and that, after these, it is a doubtful matter whether more perish of consumption between 50 and 60, or between 15 and 20, which last is only one-half a decennial period. These calculations refer, as you will remark, to human life after the age of puberty. Before that age, tubercular disease is fearfully common, especially in infancy and childhood. Among 920 children (532 girls and 388 boys) who died from the age of 2 to that of 15 years, no less than 538 (nearly three-fifths of the whole) were affected, Dr. Papavoine tells us, with tubercles.

Influence of sex, and of occupations.—As far as numerical observation has hitherto been extended, it would appear that more women than men die of consumption. Statistical researches are of still greater interest, perhaps, when they elucidate the influence of different trades and occupations in calling phthisis into existence. Sir James Clark has brought together much curious information on this point. There are certain occupations which appear to provoke pulmonary consumption by the direct application of local irritants to the lungs themselves: and there are others which tend indirectly to bring on phthisis, by lowering the tone of the general health: by producing debility and cachexia. But these two causes often go together: and it is difficult to estimate with accuracy their separate effect. The workmen, whose employments have a directly irritating operation upon the respiratory organs, are stone-masons, miners, coal-heavers, flax-dressers, brass and steel polishers, metal-grinders, needle-pointers; and many others who of necessity inhale during their labour an atmosphere loaded with irritating particles of matter. But, then, most of these men work also in towns, and remain for many hours day after day in a constrained position, in crowded or in close apartments. Moreover, some of these occupations, being sedentary, and requiring no great muscular power, are unfortunately selected, for that reason, by persons who are naturally of feeble or delicate constitution. On the other hand, butchers, fishermen, and their families, and farm-servants, are said to be comparatively free from phthisis. Beddoes ascribed this exemption to the use of animal food by these classes: but much of their

better health is due, no doubt, to their habits of active exercise in the open air ; and to the circumstance that such employments demand a certain amount of bodily strength and energy, and therefore are not likely to be adopted by weak and scrofulous individuals. It is obvious that the whole enquiry is beset with sources of fallacy. We know, however, on the evidence of undoubted facts, that certain occupations do tend to induce pectoral complaints, and to shorten life. Dr. Knight, of Sheffield, informs us that fork-grinders, who are what are called dry grinders, die there of the *grinder's asthma*, or *grinder's rot*, before they are 32 years old. Razor-grinders, who grind wet and dry, live a little longer : the moisture diminishes, of course, the number of floating particles of metal. Table-knife grinders work on wet stones, and survive till they are between 40 and 50. I must refer you to Sir James Clark's book for similar facts in respect to the inhalation of silex, of the dust of mines, and so forth. Without pretending to assign to each alleged injurious influence its precise contribution of mischievous effect, we must be content, at present, with the practical inference, that such employments should, if possible, be avoided by all those who show any tendency to scrofulous disease.

Question of contagion.—Is phthisis contagious ? No : I verily believe it is not. A diathesis is not communicable from person to person. Neither can the disease be easily (if at all) generated in a sound constitution. Nor is it ever imparted, in my opinion, even by one scrofulous individual to another. Yet in Italy a consumptive patient could not be more dreaded and shunned if he had the plague. And in this country the suspicion will now and then arise that the disease may be infectious. A girl dying of phthisis is nursed by her sister, who afterwards droops and dies of the same complaint. Here the presence of the peculiar diathesis is strongly presumable. But the parties may be different in blood. A wife watches the death of her consumptive husband ; and presently sinks herself under consumption : and there may be no traceable or acknowledged example of scrofula in her pedigree. Yet even here the latent diathesis may fairly be presumed to have existed. Very few families are perfectly pure from the strumous intermixture. The predisposition may be slight ; it may be dormant for a generation ; or, like other inherited peculiarities, it may light capriciously on some individuals only of the kindred. In both the supposed cases there have been other influences at work, more authentic than the alleged contagious property, in calling forth the fatal malady. Watching, the want of rest, confinement in the unwholesome air of a sick chamber ; and, above all, protracted mental anxiety,

than which no single cause perhaps has more power to foster and forward the inbred tendency to phthisis. The disorder, I am persuaded, does not spread by contagion. Nevertheless, if consulted on the subject, I should, for obvious reasons, dissuade the occupation of the same bed, or even of the same sleeping apartment, by two persons, one of whom was known to labour under pulmonary consumption.

Treatment.—The treatment to be adopted, and the plan of regimen to be observed, in respect to tubercular phthisis, resolve themselves into the methods of *prevention* when that disease is *likely to occur* ; of *arresting its progress* when the disease is *incipient or limited in extent* ; and of *alleviating the most distressing symptoms*, when no hope remains of stopping its course, or averting its fatal close.

With regard to the *prevention* of the disease, in those, who, by inheritance, or by circumstances, are predisposed to it, a great deal might be said ; but the subject belongs rather to the head of medical police, or hygiene, than to the practice of physic. We deem that a person *has* that predilection, which is almost a necessary condition of the development of tubercular disease, when we observe those marks of the scrofulous diathesis which I pointed out in an earlier part of the course : or when we know that the parents possess that peculiarity of constitution : or when brothers or sisters have displayed it. It would be well indeed for society if the multiplication, and extension, of the strumous diathesis could be checked, by a prudent avoidance of ill-assorted marriages. But we cannot say—no legislature could say—to a scrofulous man or woman, you shall not marry, and propagate scrofula. It is reasonable, however, to conclude, and the conclusion is amply borne out by the observation of facts, that where both parents are strumous, the child will, in all probability, be doubly so ; or that, at any rate, its chance of escaping the scrofulous disposition will be small. It is very desirable, therefore, that correct notions on these subjects should be generally prevalent ; and that persons who are conscious that scrofula in any of its shapes exists in their family, and *à fortiori* they who know that it exists in their own corporeal frame, should avoid allying themselves with such as are in the same predicament : and this prudence might be enforced if they could be made to foresee the suffering and misery its neglect is calculated to inflict upon their offspring. Intermarriages of persons of the same family, when that family is subject to tubercular disease, are earnestly to be deprecated. But on these points our advice is seldom asked.

We are liable, however, to be consulted respecting the mode of *warding off* scrofulous

disease in those who have derived an hereditary tendency to it from their ancestors. Now the first, and most effectual prophylactic in such cases, is residence in a warm climate: and next to that is the avoidance of all causes likely to foster the morbid tendency. I need not repeat what I formerly told you on this subject. Pure air; nourishing, but unstimulating food; moderate exercise; early hours; cleanliness; warm clothing; and abstinence from excessive study, from severe bodily toil, and from vicious and exhausting indulgences of all kinds: these are the topics upon which we must insist, when our advice is sought for respecting the means of preventing consumption in children or others, who are in danger of contracting it.

But when the disease is *present*—when tubercles actually exist, and are ascertained to exist in the lungs—may the progress of the disorder be ever suspended by a change of climate? Indeed I believe it may: but only in certain cases, and in certain stages of the disease. When phthisis occurs in either of its slow and unmixed forms, the question of a change of sky will be worth entertaining. In that form in which tubercles remain long in the crude state, I believe life may be preserved or lengthened by leaving this country, and residing under a higher and more equable temperature, provided that no softening of the tubercular matter has yet taken place. And in the other form—when a vomica or vomicæ have occurred, and the strength is apparently restored, and the remainder of the lungs gives out the sounds of health—in that case also I would recommend a voyage to a milder climate to those persons who could afford to migrate, and to whom it was a matter of importance that they should prolong their earthly existence. I believe there is no place to which such persons could go with more hope of benefit than to Madeira. There are, however, places on our own coast that offer no ineffectual substitute for warmer lands beyond the sea, to those who cannot so conveniently expatriate themselves. Hastings, for instance; the Isle of Wight; and more especially Torquay, on the coast of Devonshire. In those sheltered spots the patient may sometimes pass the colder weather of our winter and spring months in comparative security. If, however, the lungs are already in a state of rapid disorganization, no benefit, but on the contrary much inconvenience and useless expense, will result from change of place, unless that place, in which the patient is residing, is notoriously unhealthy. When I am asked about removal, either to another country, or to some distant part of our own, and the state of the patient is such as I have just alluded to, I always advise that he should

not forego the comforts of his home—and leave his family and friends—to seek advantage which he will not find, among strangers, and amid the discomforts of a lodging perhaps, or an incommodious dwelling. I think it cruel, and wrong, to send people away merely to die: and that many are so sent to this place and that, in the almost certain prospect of their never returning, no one, I think, can doubt.

You will find a great discrepancy of opinion among authors, and among practitioners with whom you may converse, in respect to the *regimen* which consumptive persons should follow. One man gives all his phthisical patients beef-steaks and porter; another restricts all his to vegetables and asses' milk: and each will boast, and bring forward most triumphant examples, of the *success* of his system. Now it is quite obvious that for a sick person who receives benefit from the one of these plans of diet, the contrary plan could scarcely be otherwise than injurious: and reason at once suggests that there must be some distinction between the cases that get better under the one system, and those that improve under the other. Doubtless, we must have regard to the constitution and habits of the patient; and sometimes trial alone will shew which plan is the most beneficial; but I believe the best clue to lead us out of the difficulty will be found in Dr. Latham's division of phthisis into mixed and unmixed. The object is, to sustain the patient's strength without exciting inflammation in his lungs. If, with the specific disease, there be conjoined an inflammatory condition of the pulmonary substance around the tubercles, or of the bronchial membrane; in such cases an antiphlogistic diet is the proper one. On the other hand, when the disease manifests no tendency to transgress its specific limits, then the diet should be generous and full: and it may be so without being over stimulant. Debility, however induced, adds to the disposition to the deposit of tubercular matter; and therefore the debility arising from insufficient nutrition is to be avoided as carefully as is compatible with the other indication, which is, to obviate inflammation of the lung. With these hints, you will be able, I trust, to strike the balance between the risk of augmenting the local mischief directly, on the one hand, and that of depressing the general strength, and so increasing the local mischief *indirectly*, on the other. Milk is a sort of animal diet, and it is both nutritious and unstimulating: therefore milk may, in many cases, form the staple of the food, if the patient likes it, and it agrees with him: but there is much variety in this respect in different persons. I repeat, that you will too often find prejudices entertained, on the one side

or the other, in regard to the diet proper for consumptive persons: but the commonest error of the two is, I believe, that of reducing the patient's strength by a needless restriction of his nutriment, lest inflammation should ensue.

Louis, should you refer to him, would be likely to lead you into the opposite mistake: for he affirms, that neither bronchitis, nor pneumonia, nor pleurisy, have any effect in exciting tubercular phthisis. But this opinion is quite opposed to the general sense of most men of experience. Many a case of consumption can be traced back to a severe catarrh, and no farther. Many, which ran a short course, were dated, within my own knowledge, from the last visitation of influenza. If M. Louis had meant that thoracic inflammation will not produce tubercles in the lungs of a person who has not the scrofulous diathesis, and that tubercles may and do arise without any previous inflammation, I should quite agree with him. But he draws his conclusions from cases of phthisis. I have no doubt whatever that the dormant predisposition is often awakened into actual disease, and that latent tubercles are often accelerated in their progress, by inflammation of the pulmonary tissues. Whether this happens directly from the local inflammation, or indirectly from its effects in lowering the vital powers, is a question which no one can solve, and of which the solution is not of much consequence. What we are sure of is, that every one who bears a real or suspected taint of scrofula in his frame, should scrupulously guard against every known and avoidable cause of catarrh, pneumonia, or pleurisy. I hold M. Louis's doctrine on this head to be unsound and unsafe: and I mention it only to admonish you against it.

In offering you a few final observations on the *remedies* of phthisis, I shall take leave to abstain from weighing the pretensions of a number of *specifics*, that have from time to time been highly recommended; but which never have come into general use, as they would have done, no doubt, if they had been entitled to such a denomination.

In the first place we must satisfy ourselves as to the kind of case we have to deal with; whether it be mixed or unmixed. We must watch our patient: and keep him on low diet, and take blood either in small quantities from the arm, or by leeches or cupping from the chest, whenever inflammatory symptoms arise; whether they are discovered by observation of the general or of the physical signs. The bleedings must of course be small—and palliative only of the symptoms.

Emetics, frequently repeated, have been recommended in the early stage of phthisis: partly on account of their reputed efficacy;

partly on theoretical grounds; it being supposed that the tubercular matter may be thus removed from the mucous surfaces as fast as it is deposited. Of the value of this emetic plan, I am unable to speak from any experience of my own.

Counter-irritation is often of undoubted service: mustard poultices to the chest when it is painful; or a blister or succession of blisters, or pustulation by tartar emetic ointment, to encounter local symptoms. The effect of counter-irritation upon the progress of the tubercular disorder is apparent sometimes by accident. Dr. Abercromby has related an example in which cerebral disease operated in this way; the previous symptoms of phthisis disappearing. In some cases mania appears to have a similar consequence, obscuring the manifestations, and probably retarding the course, of consumption. It has been often remarked—you will find this stated by Sir B. Brodie—that after amputation of a scrofulous leg, phthisical symptoms, very little noticed before, have rapidly increased. And there is another fact, in relation to phthisis, analogous to these, which it is fit you should know and attend to, viz. that the progress of consumption is often suspended by pregnancy:—and when a mother is suckling her child, if the suckling be not too long continued so as to exhaust the mother. I suppose there is no doubt that women disposed to phthisis have been kept alive by successive pregnancies and sucklings. It is a very rare thing for a pregnant woman to die of phthisis. I have known only one instance of it. One of my patients in the hospital, a French woman, died of that disease; and we found suppurating tubercles in her lungs; and a foetus of about five months in her womb.

Riding on horseback has been strongly advised in the earlier periods of the disease. Its main advantage seems to arise from its allowing the enjoyment of fresh air, and of exercise, without putting the patient out of breath: and these advantages are great. It is affirmed that many phthisical patients remain free from cough, and those affected with hæmoptysis cease to spit blood, so long as they continue to take exercise on horseback. Gestation in a carriage, or in a boat, has the same good effects, but in a less degree. We are not able, however, to look upon equitation as so certain a cure in consumption as Sydenham did; who says that riding on horseback is as much a specific in phthisis, as the Peruvian bark is for an ague.

Iodine and its compounds, and especially the iodide of potassium, have been much praised of late years, for their reputed efficacy in phthisis. Given in small doses, I believe that they often have a beneficial influence upon the general health. I wish I

could tell you that I had ever known them operate a cure of the manifested disease.

Often—too often—all that we can attempt to do is to relieve the most urgent or distressing symptoms: and to make easier the patient's decline. One symptom which is both distressing and weakening is the nocturnal perspiration. The common remedy for this is the dilute sulphuric acid: and a very good remedy it is, but it is not equally adapted to all cases. If the bowels are costive—or if the bowels have not, as they often have, a tendency to be relaxed—then the sulphuric acid may be freely given: and it will often have very good results. It may be exhibited three or four times a day, in doses of from 12 to 20 minims. But when this fails; or when the bowels are irritable and will not bear it; we must have recourse to other means. One of these is sponging the surface of the body, at bed-time, or before the patient settles himself for the night, with tepid vinegar and water: using twice as much water as vinegar. And if the bowels are at the same time purged, I find the compound kino powder of the Pharmacopœia an admirable medicine. It certainly has much power over the perspiration; and it has these further advantages, that (containing opium) it tends to control the diarrhœa, and to calm the cough.

Steel is another substance which exercises a marked influence sometimes over the hectic fever. It was its efficacy in this way that gave celebrity to the famous antihectic mixture of Dr. Griffith, the *Mistura Ferri Composita* of the Pharmacopœia. Certain it is, that when steel is borne in the advanced stage of consumption, it often does a world of temporary good;—but in many cases it is *not* borne well. It increases the cough, occasions head-ache, and distresses instead of relieving the patient. Nor it is always easy to say beforehand whether it is *likely* to suit the case or not. I apprehend it will at length be found most applicable to the unmixed forms—the uninflamatory forms, that is—of phthisis. I have frequently, however, succeeded in checking the wasting sweats by the *Tinctura Ferri Murialis*, given in doses of 20 minims thrice a day, when other expedients had failed me.

When the cough is very troublesome, and especially when it breaks the patient's rest at night, we must endeavour to quiet it; and there is no drug, I fear, that we can *depend* upon for that purpose, but opium. The old paregoric has been, and is, a favourite form for giving opium to appease cough; and old-fashioned apothecaries will tell you that the alteration that was made by leaving the aniseed out of this compound tincture of camphor, in the last Pharmacopœia but one, impaired its efficacy. Whether it was so or not I cannot tell; but Dr. Prout is of

opinion that *aniseed* has considerable power in quieting the irritation on which the cough depends. He infuses three drachms or half an ounce of the bruised seeds in half a pint of distilled water at a temperature not exceeding 120°; and lets it stand till it is cold. On his strong recommendation I have tried this, as a vehicle for paregoric, when the same dose in other vehicles had failed; I must say that it has frequently been followed by a marked abatement of the frequency and violence of the cough. The aniseed is restored in the paregoric of the last Pharmacopœia, that of 1836. However, at last, opium will be found our sheet-anchor, not merely for the cough, but for the diarrhœa which is so seldom absent in the later periods of phthisis. The diarrhœa depends, as I have told you, upon an ulcerated state of the bowels. In those cases in which it could scarcely be kept in check at all, I have always found very extensive ulceration in the large intestines: but the diseased condition is often seated higher up, in the ileum or jejunum. Catechu is of great service in these cases, combined with laudanum and with the compound chalk mixture:—or six grains of the *confectio opii* may be given in peppermint water, after every loose evacuation: or in obstinate cases, a pill composed of a quarter of a grain of the sulphate of copper, and the same quantity of opium, will often answer well, though it sometimes gripes. I mention these several expedients, for you will often require them all. The injection of a small quantity of starch, as much as the rectum will receive and retain, with ten or twenty drops of laudanum, generally affords the patient the most sensible comfort; and suspends the further action of the bowels for a considerable time.

These, I think, are the principal means by which we may endeavour to smooth the pillow of the patient dying of consumption. Sometimes very little pain or distress is felt at all, from first to last; the intellects remain free, and the patients are proverbially sanguine about the issue of their disorder. At other times, do what we will, the patient suffers greatly. One harassing incidental combination of symptoms is nausea and vomiting. I should have stated before, that when these symptoms last long, and are accompanied by pain and tenderness of the epigastrium, they denote, almost always, a thinned and softened condition of the mucous membrane of the stomach. They may be alleviated by a few leeches—by a blister—by the effervescing draught—or the prussic acid may be used; that is a medicine which certainly tranquillizes an irritable stomach: and it now and then seems to allay an urgent cough. Sometimes, again, the bones of the miserable patient are laid

bare, in consequence of pressure upon parts in which the circulation is already very feeble. We cover these with soap plaster; take off the pressure by arranging cushions; or what is much the best of all, we put the patient upon the water-bed, invented by Dr. Arnott.

CLINICAL LECTURES,

BY DR. CLENDINNING,

Physician to the St. Marylebone Infirmary.

LECTURE IV. DELIVERED DEC. 6, 1841.

Mental Derangement.

F. E., 40 to 45 years of age, clerk, taken ill about a week previously, and admitted into the vesania ward October the 29th. The patient was a middle-sized, stout-built, well-coloured, muscular subject, and appeared to have enjoyed excellent health until the present attack. His illness was attributed to excessive anxiety and distress of mind, occasioned by a recent embarrassment, partly of a pecuniary nature. About a week before admission he was observed to become rather eccentric in his humour and habits, wandering away from his family for a day sometimes at once. Within a day or two before I saw him first, the eccentricity had increased to something like complete alienation; and in this state he was admitted.

October 29th.—I found him in an apparently stupid *lost* state, unable to answer questions for the most part. He had little fever; his tongue, bowels, pulse, all nearly normal, but the latter rather full and strong. On the most careful inquiry I could not learn that there had been any fit, or other such symptom of old mischief about the brain. He was reported to be of sober habits. Ordered—

Broth diet. V. S. ad 3x.; Mist. Antimonialis, ʒiss. 4ta q. q. h.

30th.—Dr. Boyd found a purge necessary, at his morning visit, to relieve the bowels; and on the preceding night, on account of delirium, a blister to the nape of the neck.

31st.—I saw him a second time, and found the feverish pulse abated, and the bowels and tongue normal. The blood extracted from the arm was reported to have been quite normal: he continues to refuse food.

Nov. 1st.—I found him in a state of rather low delirium, with the bowels confined, having acted but once since admission; tongue brown and dry; pulse rather quick, full, and strong. Ordered—

Affusio frigid. (cold douche), capiti raso bis quotidie. Enema Terebinth. statim.

At 7 P.M. I again saw him, and finding

the bowels still unmoved, ordered—

Pulv. Croton. stat. (Olei Croton. ʒi. sacchari pauxillum, M.) Repetantur alia.

2d.—Well purged last night, and again once this morning; has been quiet for many successive hours after the exoneration of the bowels; is more rational; tongue moist again, but coated; he is fidgetty, but not violent; still requiring slight restraint to keep him in bed, and covered sufficiently with bed-clothes. He still refuses food; he bears the douche, which has not been suspended since first ordered, with patience and composure; his head is cool.

3d.—Saw him at 7 P.M. and found him quite tranquil, standing and walking about in the ward while his bed was being made ready; not yet quite collected, but for the most part conscious of what occurs, and amenable to authority; tongue whitish instead of black, as at last morning visit; has drunk several pints of cold water this morning by my permission, to quench an ardent thirst reported to me by the nurse—the patient being yet too stupid to express his wants to me; pulse weak and quick; no tremor; he is less weak than might be expected after five or six days of total abstinence.

4th.—Still refuses food; mouth more foul again, with blackish sordes on the teeth, lips, &c.; pulse neither very rapid or feeble; face still tolerably ruddy; expression by no means languid, nor person materially wasted; slept after 4 A.M. an hour and a half; seems very anxious in his mind about something that occurred shortly before his illness; bowels not open since yesterday. His trouble seems now again as at first, nearly wholly mental. To procure sleep ordered—

Misturæ Æther. Comp. ʒiss.; Liq. Opii Sedat. ʒxxx. h. s. sumend.

5th.—Slept without waking for seven or eight hours after the draught; tongue getting cleaner; more collected, but still declines food; pulse of good volume and power; drinks water voluntarily, but nothing else; takes pretty regularly his powders (containing each calomel gr. ij. with sugar) twice or thrice a day since they were ordered on the 2d; bowels two days confined.

5th, 7 P.M.—No food taken since morning. I now began to feel uneasy about the consequences of protracted fasting, notwithstanding that his person had not yet wasted much, and ordered that he should have (with the help of the stomach-pump if necessary) some beef-tea and bread crumb, if it could be administered without dangerous violence or excitement.

6th.—Found that the nurse had succeeded easily in making him swallow three half-pints of beef-tea, with a little bread, last night, and some tea this morning. His colour and

flesh now visibly falling away ; his pulse also becoming feeble ; had a large evacuation last night ; tongue brown and dry ; delirium continues. Ordered—

White wine, \mathfrak{z} iv. in arrow-root daily.

7th.—Took wine and arrow-root, and slept pretty well last night ; had also beef-tea and bread, and some tea ; pulse quick and feeble ; tongue brown and dry ; two slimy stools ; rather more delirious ; seems failing in powers.

8th.—Costive again, otherwise as before. Ordered—

Haust. Sennæ, \mathfrak{z} iss ; Spir. Ammon. Arom. \mathfrak{z} i. stat.

10th.—Seems better ; tongue nearly clean ; more tranquil ; slept a good deal last night ; much more himself in mind ; expression improved ; pulse under 90, good volume and power ; bowels confined for three days ; he still declines food. Ordered—

Pulv. Croton. stat.

11th.—Tongue dry and brownish again ; slept very fair ; four or five evacuations from the croton powders ; still refuses food, and fluids only got down by the nurse ; pulse good, quieter.

11th, 8 $\frac{1}{2}$ P.M.—For the last two hours has been much excited ; a smart delirium, with much hallooing and other outcries ; head hot ; pulse rather quick and strong. Ordered—

Hirudines x. temporibus.

12th.—Something relieved by the leeches ; had no sleep, however, after 11 last night. Ordered, in place of other remedies—

Haust. Effervescens, 4ta. qq. h. Borax and honey for the lips inside.

He is threatened with a slough on the sacrum ; bowels open yesterday ; very delirious ; pulse quickish, not very feeble ; slept 8 hours last night ; some superficial ulceration between the under lip and gum. Ordered—

Alum. Usti c. Sacchari pauxillum labiis internis.

14th.—Quiet ; takes food voluntarily now ; pulse normal ; bowels still costive.

To have the water-bed.

15th.—Olei Croton, \mathfrak{m} ss. c. Saccharo stat.

16th.—Slept none last night, but quiet ; speaks little or none ; tongue yellow, moist ; pulse good ; bowels well open.

17th.—Reported to have had but one sufficient evacuation for four days ; slept yesterday six or seven hours, but none last night ; takes liquid food voluntarily ; seems able to answer questions properly now ; calls for drink ; carotid artery beats rather quick, and pretty strong and full ; the mouth not healed yet. Ordered—

Enema Terebinth. c. Olei Croton, \mathfrak{m} ij. stat.

18th.—Much excitement last night, getting up, and out of bed ; talking deliriously, &c. ; no heat of head, but the douche still continued ; pulse seems more full and strong ; back recovering fast ; one small evacuation to-day.

21st.—Seems better in the main points ; more collected ; conversed with some friends quite intelligently, with short simple questions and answers ; bowels open in the night ; tongue nearly clean ; back doing well ; makes a great deal of water. For the last four days his hands and arms have been left quite free without inconvenience.

24th.—Tongue clean ; quite collected ; able to get out of bed when necessary, and altogether improved greatly ; eats hungrily ; bowels open. Ordered—

One chop and half a pint of ale for dinner.

27th.—Up and dressed to-day, and in all respects doing well ; no wandering whatever for three days, and gradually progressive amendment before that ; convalescent.

Diagnosis.—From the whole history of this case there can be no doubt that it was an example of acute physical disorder, excited solely by mental distress. Up to within a week or ten days of his admission he seems to have been in excellent health ; and when examined after admission, though quite beside himself and irrational, he furnished no indication whatever of structural lesion in any quarter ; on the contrary, his colour, his conformation, the state of his nutrition, the degree of fulness, force, and frequency, of the vascular actions, all corresponded nearly with the standard of health, only differing from it by a slight excess in the power and volume of the pulse ; and the general character of the symptoms led to the same result. It seems to have been a purely idiopathic affection, too, for I could not learn that any thing similar had occurred amongst his immediate relatives.

Indications.—The morbid conditions, then, existing in this patient were partly and primarily moral, and partly and secondarily physical. To “the mind diseased” we can “minister” directly in no way. With respect to the moral portion of mental alleviation, we have therefore to wait on Time and Circumstances, without active interference with the spontaneous efforts of nature. The physical part of the complaint, however, requires close attention, and sometimes, and not rarely, calls for vigorous remedies.

In less complicated cases, therefore, such as that above described, the indications of treatment are comparatively few and simple. Where no tremors or anæmia, or other clear marks of the asthenic diathesis, are observed, we have—

1. To relieve, by active means, the cerebral congestion and irritation.

2. To correct the gastric derangement.

3. To remove, as completely as we can, all extrinsic causes of excitement, as light, noise, stimulating food, &c. &c.

Remedies.—The principal means employed to effect those objects were the following:—Venesection on the first day; the cold douche to the shaven scalp, from the first day nearly throughout twice or thrice daily; purgatives on ten or twelve different days in various forms, and mostly in vigorous doses; an opiate hypnotic on the 7th night; leeches to the temples on the 11th night; low diet for a week, and then food as nutritive as he could be persuaded to take, including four ounces of wine daily. He also took calomel powders amounting to 4-6 grs. per diem for four to five days after the fifth of treatment. The other remedies were weak antimonials—a blister to the nape, and effervescing draughts; none of them important in this case. Now of the preceding means I consider the cold douche and the purgatives the most important. No doubt the venesection, leeches, and mercurials, must together have contributed materially towards the relief obtained; but I have no doubt that the douche had a larger share than all the three in quieting cerebral reaction and excitement. I have now for some years used it in the most urgent cases of delirium, whether febrile or maniacal, and have so often had from it results the most speedy and beneficial, that I reckon it one of the most powerful remedies in our possession against cerebral erethism. I think, in fact, that it is second in power to none, except tartar emetic and opium in asthenic erethisms (such as that of delirium tremens usually), and bleeding, with antimony or mercury in sthenic and inflammatory erethisms; while it is superior to all in its range of usefulness, being safely applicable alike nearly in sthenic and asthenic acute delirium.

To apply it effectually a cold stream, as copious as convenience will admit, should be poured, from any suitable vessel, on the sinciput or vertex (of the head placed horizontally over a second vessel), and continued, with short intermissions, until the surface feels somewhat cold to the hand, and if the patient be rational in any degree, until some intimation is given of a sense of painful constriction of the scalp; and this should be repeated every six, or eight, or twelve hours, according to the urgency of the symptoms. To this remedy I ascribe most of the favourable impression made on the nervous system, and of the control we were able to maintain over the cerebral irritation in this case.

The douche was, I presume, materially aided by the repeated purging, with strong cathartics. By the purging the further

advantage was probably obtained of checking a tendency to mischief in the abdominal follicular and glandular organs; and the mercurial is likely to have contributed to the same end.

About the end of the second week of treatment symptoms appeared threatening a slough on the sacrum; but the removal to the water-bed soon checked that morbid tendency.

Only one or two other points requiring notice present themselves, viz. the tendency to pervigilium or sleeplessness, and the obstinate intestinal sluggishness. The sleeplessness is more characteristic of mental disease than any other. It is sometimes, but comparatively rarely, met with in nervous fevers. It is common in delirium tremens; but that is practically a species of mania. I have rarely met with it as an important symptom, except as an effect of idiosyncrasy, in any other disorders. The sluggishness of the bowels, and constant tendency to constipation, are likewise characteristic of the class of diseases of which ours was an example; and much less so perhaps than the sleeplessness. It is rare comparatively, I think, in other diseases marked by gastric symptoms with delirium; and is exceptional rather than usual in typhus in particular.

Pseudo-pleuritis.

Mary H., 67 years of age, having borne 18 children, char-woman, admitted Nov. 2, 1841, a well-formed, and previously healthy subject. This patient, when I first saw her, had been about ten days ill: she had been lately subject to slight rheumatic pains; and about the beginning of the last week of October she had a severe fall, which stunned her for a little, and hurt her on the right side; and under the effects of the accident she was labouring still when she was seized during sleep, on the night before her admission, with acute pain on the right side, in the region occupied by the outer and lower part of the right lung. The part of the chest complained of was rather tender on pressure, and appeared nearly motionless during respiration, as if she did not breathe with that part. The resonance of the part appeared normal, and the respiratory murmur, so far as it could be heard, was quite pure; but it was feeble when compared with that of the opposite side. She had little or no cough apparently; but the painfulness of the act, under her circumstances, left it doubtful whether cough might not exist, and yet escape notice to a great extent, or even altogether, owing to the efforts of the patient being successful in suppressing it. She complained of headache and sickness at the stomach, but without vomiting. Her tongue was coated yellow; she was thirsty; her bowels were open; her pulse about 100, of

moderate fulness and force. About the hip, on the right side, and elsewhere on that side, there were pains, with feeling of soreness, as from contusion. On examining the other regions of the chest and abdomen, nothing abnormal was detected.

Now this combination of symptoms, at first sight, resembled nearly equally pleurodyne or intercostal rheumatism conjoined with fever, and incipient pleurisy or pleuropneumonia; and I called the attention of the gentlemen present to the case, as one of some interest as to the diagnosis. After weighing all the circumstances, I concluded that no visceral or membranous lesion existed, and that the case was muscular exclusively in all probability. I diagnosticated pleurodyne, then, and prescribed accordingly.

Nov. 2d.—Broth diet; Sumat. Antimonii Tartrat. gr. $\frac{1}{2}$; Liquor. Morph. Bimecon. $\mathfrak{m}\mathfrak{v}$. Mist. Camph. \mathfrak{z} iss. 4ta qq. hora.

This medicine should have been preceded by some mild purge, had not her bowels been habitually and recently also sufficiently relieved.

3d.—Next day I found the pain of the side mitigated, but still complained of; her pulse was less full; she had vomited during the night; the physical signs continued precisely as before; her bowels appear somewhat deranged by the opium in the mixture; and, at all events, the tongue continues coated, and she is thirsty. Ordered—

Haust. Sennæ Comp. \mathfrak{z} iss.; Spir. Ammon. Arom. \mathfrak{z} i.; Jalap. Rad. \mathfrak{O} ss. stat.

Owing to the draught not being sufficient, Dr. Boyd ordered an injection in the evening—Enema Purgans stat. about 8 P.M.

4th.—Bowels well opened last night; pain of side reported much less; pulse now normal; no fever; slept some last night, notwithstanding noise in the ward; no nausea present.

To have fish for dinner, and a sleeping draught at night.

St. Mist. Æther. Comp. \mathfrak{z} iss.; Liq. Morph. Bimecon. $\mathfrak{m}\mathfrak{x}$ l. h. s.

5th.—Slept much better; pain much relieved; appetite pretty good; no headache; bowels normal. Ordered—

To continue the tartar emetic mixture as before; to take the sleeping-draught at bed-time; and to have half a pint of ale and one chop for dinner instead of fish.

After this I watched the patient less closely, and took few notes of her condition, which, however, was progressive.

6th.—Ordered the following instead of the emetic tartar.

Sumat. Decoct. Cinchon. \mathfrak{z} iss; Tr. Colchici Comp. $\mathfrak{m}\mathfrak{xv}$. ter quotidie.

8th.—On the third day this mixture was found to purge, and chalk was given to check the diarrhoea.

12th.—Her diet was increased to two chops daily, and frictions of lunar caustic ointment were ordered to the side, which she still found painful. She was now soon up and about all day, and compound tincture of guaiacum in drachm doses, and anodyne liniment rubbed into the seat of the contusions, in a few days nearly completed the cure, about the 17th day of treatment. Ordered to wear flannel next the skin, and to be dismissed next discharge-day.

REMARKS.—This case was of some interest, but in one point of view only, viz., with reference to diagnosis. She at first presented so many of the usual signs of pleurisy, that her complaint might easily have been mistaken for that disease. The diagnosis turned on questions of degree and proportion, so far as the functional symptoms were concerned. The local distress appearing quite disproportionate to any constitutional suffering or general re-action that could be referred to it, I was entitled, on that ground alone, to suspect the case to be one of pleurodyne, or intercostal rheumatism, simulating pleurisy. This suspicion was greatly strengthened by the observation that she had been rather a rheumatic subject, and had further been recently subjected to the operation of one of the most potent causes of obdurate local rheumatic and neuralgic affections, viz., a contusion in the seat of pain; and the diagnosis was rendered complete by the negative results of percussion and auscultation, from which it appeared that no effusion had yet occurred, though she had been a week in this state of suffering, nor any obstruction of the air-passages in the part of the lungs subjacent.

The remedies used corresponded with the diagnosis: no debilitating agency was employed, except a low diet at first and half-grain doses of tartar emetic with laudanum; and this was soon superseded by animal food and bark, with a little colchicum or compound tincture of guaiacum, and frictions of lunar caustic ointment, and afterwards anodyne liniment. She had further, nearly throughout the attack, opiate draughts at bed-time.

Epilepsy in an aggravated form.

J. E., 27 years of age, a middle-sized, well-made young man, was admitted Nov. 2, 1841, in a state of stupor. Since puberty, he has been subject to epileptic attacks, during one of which, about ten years ago, he was run over by a cab in the street, having been unexpectedly seized with a fit on a crossing, as we understand.

In the intervals of the attacks, which have not been very frequent until lately, his mind

and voluntary powers were in the normal condition. But within the last month, owing to convivialities beyond his strength, the fits have recurred at much shorter intervals; so that within the last three or four weeks he has had a dozen severe fits, which have clouded his mind temporarily, so as to render him unequal to his business, which was that of a clerk in a commercial establishment. At his admission, and for 24 hours or more after, he was unable to give any satisfactory account of himself, apparently from confusion of memory more than any other cause.

3d.—On examining his person, I found his head very hot; his whole body perspiring profusely; his pulse rather quick, and neither large nor hard. He was able, with some effort, to stammer out imperfect answers to my questions. The delirium, which appears to have existed at his admission the preceding afternoon, was nearly gone, and he seemed tolerably self-possessed now. He stated that his head was painful, and that he felt confused and giddy, and that his bowels had been confined for several days—he could not precisely say how long. On his admission, Dr. Boyd, the resident physician, ordered him a croton powder (*olei croton tigl. m̃i. c. saccharo*) every fourth hour until the bowels should answer sufficiently; also, that a blister should be applied to his neck, and put him on broth diet.

Next day, when I first saw him, at half-past 12, the bowels had not yet yielded, and the symptoms above detailed presented themselves. I consequently directed the head to be shaved, and the cold douche to be applied to the skull three times daily, and the croton powder to be repeated.

Affusio frigid. cap. raso.

Pulv. Croton. 3ta. qq. h. ad alvi plenam solutionem.

3d.—At 7 P.M., I saw him again, and found that after he had taken about four croton powders his bowels yielded, and three large evacuations followed. His head was less hot; he could speak better.

4th.—Quite collected to-day; his head cool; he likes the douche; he has no headache; had two evacuations in the night. His eyes and general surface now present appearances of jaundice; on the previous day his urine had been remarked to be of a very high, if not dark, shade, but until this day I was uncertain of the cause. It is now, on a cursory examination, of the colour of beer, or of the urine sometimes met with in Bright's disease, and has a copious deposit of a lateritious appearance, but rather lighter than the ordinary brick-dust sediments. On examining it, it seems plain enough that the dark colour is owing to a large admixture of brown bile, and that no blood is

present. The odour likewise, and the ample quantity of urates, with the absence of positive renal symptoms, contributed to satisfy me, without chemical examination, that the hæmaturious appearance was deceptive. There is no tenderness in the hepatic region; he reports that he never had jaundice before: as a precautionary measure, Dr. Boyd ordered in the morning,

Pil. Calomel c. Opio, bis quotidie.

5th.—Bowels again confined; says his head aches; he slept well, however; his pulse is somewhat accelerated; his urine continues of a deep colour as before, with copious urate deposit. Ordered—

Haust. Sennæ comp. c. Jalap. Pulv. gr. v.; Ammon. Sesquicarb. ʒss. statim.

6th.—Improved considerably; able to get up to-day when necessary; no pain; bowels open; urine still very dark, but there is much less sediment; the smell is normal; he appears less yellow; appetite good, as indeed, it has been from the beginning. Complains of thirst; asks for a little beer. Pulse quite quiet.

Allowed half a pint of ale at dinner for once, on trial.

7th.—No pain or uneasiness now, except in the leg, which had been injured when he was run over ten years since; less yellow; pulse quiet; urine still bilious. Ordered half a pint of ale daily, and fish for dinner.

8th.—Bowels confined. *Haust. Sennæ, and Enema Terebinth.*

10th.—Had a slight fit about 4 P.M., which is the first he has had since admission; felt very dreamy last night, with tightness in the head; the carotids, however, beat normally in volume, force, and frequency. Ordered—*Cuc. Cruent. temp. ad ʒvi.* The single chop to be continued, which had been ordered by Dr. Boyd on the 8th.

14th.—Had a slight fit, lasting for a few seconds only, as I understood, on the 12th, on account of which he was again cupped on the temples to five ounces; his urine has been normal now for three or four days; his head aches now; he had a third momentary attack last night, leaving no unpleasant effect after it. The douche ordered to be resumed with regularity again thrice a day.

18th.—No fit since; no pain or heat of head; feels well now except that he is a little weak; has been up all day for some days; seems now in a state for the use of metallic or other antispasmodics; his fits since his admission have been three in number and very slight, and he is now as well as he was twelve months since. But he desires his discharge, which of course must be granted.

REMARKS.—In this case, no observation is required on the subject of diagnosis; but

under the head of treatment I must offer a few observations.

Pathology.—When this patient was admitted, his condition, so far as the urgent symptoms are concerned, may be presumed to have been acute congestion of the brain, with violent erethism of the organ. It seems not unlikely that, at the same time, there existed a somewhat similar state of the liver, for, on the second day of my treatment, intense jaundice existed, especially remarkable in the condition of the urine, which was more deeply tinged with biliary colouring matter than any that I have seen for years. The absence of tenderness about hypochondrium, &c. and of any traces of the passage of gall-stones in his past history, renders it probable that the hepatic congestion and derangement was recent, and in all probability connected closely with the aggravation of the epileptic disease; but whether as cause, effect, or coincidence merely, is not clear. On this point most pathologists would probably decide according to their previous views as to the importance and extent and range of influence, of the brain and liver respectively in the human economy. The retention in the blood of biliary elements is well known to affect the brain most injuriously, as well as other organs. The disturbing force occasionally exerted by the irritated brain or spinal marrow, on the other hand, is so powerful over all the less noble organs, that an explanation might easily be derived from this quarter. Which course soever we take, our explanation must be purely conjectural in such a case, and may be very well spared. A conjectural explanation in pathology is but a shadow of knowledge without the substance; in fact, a placebo, which, though a very necessary thing often enough in the sick-room, is false coin in clinical teaching.

The mode of distinguishing bilious urine from bloody urine, which in this case it very much resembled, without chemical tests, is, perhaps, worth your notice. The tasting the suspected fluid will sometimes be found necessary. But in this case I found it sufficient to try it by transmitted light. By wetting a slip of white paper with it, a greenish olive colour was given to the light reflected from the paper through the fluid. The apparently dark-red colour was wanting likewise, when the fluid was not examined in considerable quantity, but in small portions at once, and a rich olive-brown was obtained instead.

Remedies.—In this case, likewise, the use of the douche was found very beneficial; at first the refrigeration was combined with cupping, &c. to relieve urgent congestion; and purging on account of constipation and jaundice; and afterwards, small quantities of blood were extracted two or three times.

But I placed more reliance on the douche as a means of keeping under the acute cerebral erethism, after it might be presumed to be no longer subinflammatory, and that remedy was accordingly persevered in with more or less regularity, to the end. Soon after the first week, the amendment in his symptoms was such that less attention was paid to the douche than there ought to have been; and in consequence, as I think, he had two slight fits in the course of some 36 hours, viz., on the 12th and 13th of November. For the former he was again cupped; for the latter nothing was done of that kind; but I ordered the regular administration of the douche thrice daily, and for the four following days no recurrence of fits happened to him. Bleeding in such circumstances is but a palliation at best, and a dangerous one if not discreetly employed. Had I not had the douche at command I should not have ventured on the use of ale, however desirable, to recruit a subject much accustomed to it, and anxious to get discharged. However, as events turned up, the remedy fully answered my expectations.

ON

POISONED WOUNDS.

BY HERBERT MAYO, ESQ. F.R.S.

(For the Medical Gazette.)

UNDER the head of poisoned wounds, will be described, the effects of wounds received in dissecting, and of the bites of venomous serpents, and of rabid animals.

I. OF WOUNDS RECEIVED IN DISSECTING.

There is reason to think, that two animal poisons at least are generated in the body after death. Or if there be but one, under different circumstances its virulence is not the same. And the circumstances are definable which give rise to the difference. The virus produced in any texture of the body through a high degree of decomposition, causes a mild train of symptoms: that which is traced to the secretions of inflamed serous membranes, and is already in existence a few hours after death, causes more serious, and often fatal, illness. Accordingly, the student in the dissecting-room has less to fear from the wounds he encounters there. It is in *post-mortem* examinations the danger lies. But in this, as in other instances of contagion, all exposed to it do not suffer. Not only must the poison be applied but there must be a certain aptitude to take it.

The milder class of cases includes these varieties,—festering of the wound, with inflammation of the lymphatics—phlegmonous inflammation of the wounded part—phleg-

monous erysipelas—circumscribed mortification.

The severer cases include two different trains of symptoms, of which the first is sometimes manifested alone. It consists in great depression of the system, with nervous fever. The second train of symptoms are, diffused infiltration of the cellular membrane with an acrid humour, followed by inflammation, abscess, even sloughing.

Before entering upon the history of these cases, we may inquire whether there are any means of prevention or protection.

If the student in the dissecting-room prick his finger, he should wash the wound, then suck it strongly with the lips, then bind a strip of adhesive plaister an inch wide twice round the part, and not remove it for three days.

At necroscopic examinations of cases of puerperal fever, phlebitis, peritonitis, and the like, no one should act as operator, or assistant, who has a recent wound, or abrasion, or sore surface, on the hand. And the operator, before commencing, had better oil his hands. If he prick himself, the means just recommended should be adopted; and after cleansing and sucking the wound, it is safer to touch it with the point of a probe that has been dipped in nitric acid.

It is besides to be remembered and acted on, that, all poisons of contagion, if suffered to remain upon the unbroken cuticle, are liable to make their way through it, and then to produce their usual effects.

1. *Festering of the wound, with inflammation of the lymphatics.*

On the second or third day, the wound becomes heated, and burns and itches. If a puncture, a drop of matter forms below the epidermis; if a cut, it opens, and exudes first serum, and then pus. At the same time, red lines in the course of the lymphatics are seen upon the forearm and arm; sometimes a gland in the axilla inflames. The inflammation of the lymphatics, at its maximum in twenty-four hours, disappears in two or three days. The wound enlarges a little by ulceration, then draws together and heals, the epidermis immediately around it separating. Often at this period, cutaneous erysipelas appears about the wound, and moves erratically over the fingers and hand, occupying two or three square inches at once, and lasting for several days; the skin so affected burns and itches. There is no fever, seldom even loss of appetite; the constitution is not disturbed.

The means of treatment requisite at the commencement are,—a bread and water poultice to the wound; the hand kept at rest and raised, either in a sling or on a pillow; to the inflamed lymphatics, tepid fomentation with decoction of poppies. Two or three grains of calomel at night, with Dover's

powder five or ten grains, if there is sleeplessness, followed by an aperient in the morning; the same to be repeated according to the symptoms. Abstinence from wine, spirits, and porter; the diet light.

In the second stage,—from the festered wound remove the loose cuticle with scissors, and dress with unguentum resinæ flavæ; to the erysipelas apply the liq. plumbi subacet. dilut., or the same in a poultice. Diet now as usual, with wine or porter; and moderate exercise in the open air, the arm supported in a sling.

2. *Phlegmonous inflammation.*

After two or three days swelling of the wounded finger may supervene, with heat and redness and intense pain, throbbing, and aching; with inflammatory fever ushered in by shivering; furred tongue, loss of appetite, restlessness, headache; sometimes delirium. The pain continuing several days, matter at length forms, deeply seated upon the tendons; the cartilage of the neighbouring phalangeal joint is then liable to be absorbed; and when the complaint has subsided, ankylosis of that joint is found to have taken place. Sometimes a second or even third phlegmon, leading to suppuration or dispersing, forms on the hand or above the wrist in the course of the flexor tendons.

In the early treatment of this case, venesection of the opposite arm, calomel with James's powder at night, antimonial salines during the day, fever diet, the recumbent posture in bed, the hand and arm raised on a pillow, iced saturnine lotions to the inflamed part, are necessary. When matter has formed, a free longitudinal incision, to give it escape, though extremely painful, is followed by remission of all the symptoms. Such an incision, prematurely made, not opening an abscess, aggravates the inflammation. After two or three days, when the inflammation and fever have been reduced by the means indicated, Dover's powder may be given at night. The further management of such a case is obvious.

3. *Phlegmonous erysipelas.*

Phlegmonous erysipelas of the hand and arm is liable to supervene within a few days after such an injury, as well as after a scratch with a rusty nail, or other trivial lesion, and is characterized by the symptoms, and runs the course, described in earlier lectures—commencing with diffused swelling and redness of the hand, gradually extending to the forearm and arm: the integument hot, tense, shining, red; the redness terminating either suddenly, or, which is more common, by gradations and insensibly; the pain a severe sense of burning, weight and aching, with high symptomatic fever. The events threatened are, setting

aside a fatal termination, extensive suppurations, undermining large portions of the skin, sloughing of the integuments, fascia, and tendons.

We are indebted to Mr. Lawrence for the just principles of practice in this case. The treatment should be generally and locally antiphlogistic and depletory: calomel, with James's powder, aperient and antimonial salines, fever diet, rest in the recumbent posture, as general means; as local means, one or more free incisions through the skin and swollen cellular tissue several inches in length, where there is the greatest heat, and redness, and tension. Poppy fomentations with flannels afterwards. The inflammation having been thus arrested, the means proper in the conduct of the case are obvious, in which a most important point is, to detect the formation of depôts of matter under the integument or fascia, and to open them freely as soon as discovered: this point overlooked, I have known the patient to fall back unaccountably, erysipelas to reappear, and a finger even to slough.

It is superfluous to advert again to all the various phases of phlegmonous erysipelas requiring modifications of the above plan of treatment; but I will borrow and subjoin one very illustrative case.

"A student received a wound in dissecting, which was followed by mortification of the last phalanx, with violent inflammation of the hand, forearm, and arm, and the most serious inflammatory symptoms generally; and this went on in spite of very active means, including venesection, the local loss of blood, and other suitable measures, for about seven or eight days. He now seemed in a desperate condition, with a very feeble rapid pulse, a countenance expressive of great anxiety, a sharpness in the appearance of the face, and a general aspect that portended the greatest danger. He had not had any rest for several nights previously. The forearm and arm were swollen, and of a bright red colour up to the shoulder. In a consultation with Mr. Earle, under whose care the patient immediately was, it was agreed to adopt the following practice. An incision was made along the arm, and two in the forearm, one over the radius, and one over the ulcer, through the inflamed skin and cellular membrane. Afterwards, the arm was enveloped in warm cloths, and the patient was left in bed. No particular attention was paid to him for some little time, but after Mr. Lawrence and Mr. Earle had left the house, an alarm was given that he was worse, and in fact he fainted. When his friends came to examine him, and to put aside the bed-clothes, it was found that an immense quantity of blood had flowed from the incision. His father said that he considered that more than three pounds of

blood had been lost: it was taken up by tea-cupsful, and put into a wash-hand basin tea-cupful after tea-cupful. This great loss of blood had occasioned syncope, but so far from ill resulting from it, this gentleman in fact derived the greatest relief from the depletion. He rapidly recovered, and ultimately got quite well."

4. *Mortification.*

When mortification of the wounded part ensues, it is always circumscribed and subordinate. I never saw or heard of progressive mortification or sphacelus proceeding from this cause. Where mortification of a wounded finger occurs, it is commonly likewise connected with, and attributable to, the severity of the attendant inflammation, whether phlegmonous or erysipelalous. Nevertheless there are cases in which mortification of part of the finger forms an early symptom, and manifestly depends upon the immediately deleterious agency of the poison. This feature, however, I believe only goes with the class of cases next to be considered.

5. *Depression, with nervous irritation, or nervous fever.*

In Mr. Travers's work upon Constitutional Irritation, all the features of these serious cases are fully displayed. It will sufficiently serve my present purpose to abstract from this source the history of two patients, to exemplify the formidable nature of the attack. In the first the characteristic is nervous irritation; in the second depression, with nervous fever. In the second, again, certain localized symptoms make their appearance, which will be considered under a separate head.

"Mr. Elcock, student of anatomy, slightly punctured his finger in opening the body of an hospital patient recently dead, about 12 at noon. In the evening, finding it painful, he applied a poultice, and took some active aperient medicine. During the night the pain increased to extremity; and symptoms of high constitutional irritation presented themselves on the following morning. No trace of inflammation, however, was apparent, beyond a slight redness at the spot at which the wound had been inflicted, which was a mere puncture. When visited in the evening no local change was to be discovered: the nervous system was agitated in the most violent and alarming degree; the symptoms nearly resembling the universal excitation of hydrophobia. He expired at 3 o'clock the following morning; within the short period of forty hours from the injury."

"Having at 8 in the morning assisted in the examination of the body of a lady who died of puerperal peritonitis, between 10 and 11 P.M. Dr. Pett complained of feeling some

heat and uneasiness on the outer side of the last phalanx of the middle finger. There was a slight blush round a minute opening in the cuticle: it was touched with lunar caustic: this gave no pain, but being repeated later in the night was felt sensibly, and the pain thus produced shortly became agonizing. He went to bed, and had a rigor, followed by some degree of heat. At 9 the next morning the finger was much swollen and inflamed, and there were red lines on the forearm. The caustic had made a large eschar; countenance haggard and depressed; pulse 90. Calomel, gr. x., followed by an aperient, and leeches to the finger and hand. At 1 the countenance suffused with redness; eyes hollow and ferreted; breathing sudden and irregular, like sighing; gangrene of the two last phalanges; great sense of depression, and appearance of torpor; heavy sleep in the afternoon. The 3d day hand and arm rather more swollen; general symptoms the same. The 4th day appearance and powers more sunk; in the place of torpor, anxiety; skin of the axilla and side of the cheek marked with an erysipelatous blush, and pitted on pressure. 5th day, more tranquil, but his general appearance frightfully wan and haggard; pulse 110, irregular, and feeble; died at 6 P.M."

The formidable character of these attacks baffles our resources. All that has hitherto been done has been to treat symptoms; to give stimulants to support the failing strength; camphor and opium to allay nervous irritation; calomel as an experiment.

The only glimmer that one at present sees is the possibility that arsenic may be beneficial; and that upon a very insufficient analogy.

V. The secondary disorders attending some cases of poisoned wounds consist in infiltrations of the cellular membrane of the limb, and of one or more regions of the trunk, followed by more or less inflammation, sloughing, suppuration. These local disorders are liable to occur to a very great extent, acquiring importance, and developing themselves, after the first danger has passed, and materially lessening the patient's chance of final recovery. As however they require no special treatment, I shall not dwell upon their management, or on that of the attendant constitutional symptoms, but shall content myself with narrating the principal features of the most remarkable case of the kind that I have witnessed.

Mr. Pearse, assistant visiting apothecary at the St. Marylebone Infirmary, poisoned his hand in opening the body of a woman who had died of puerperal fever in the winter of 1831-32. I was requested to see him when several days had elapsed, and he was labouring under the secondary consequences of the injury. He lay breathing with difficulty, his countenance distressed and anxious,

and he complained of pain of the right side. This region was occupied by a large, firm, doughy, or rather brawny swelling, arising from infiltration of the cellular tissue: the skin being of a dark red. In concurrence with the opinion of the other surgeons present I made a deep longitudinal incision through the swelling about five inches in length. Towards six ounces of blood flowed; the skin became paler, and lost its tenseness. The patient in a few minutes experienced relief: the following day he was much better; and his progress was for a short time, two or three weeks I believe, perfectly favourable. He then fell into a new peril. I was requested again to see him, and found him in the following state:—He was wasted with hectic; his skin sodden with colliquative sweats; the integuments of his trunk, quaggy to the touch, formed a great bag of glairy matter: this had partial issue at one or two points. Three-fifths of the subcutaneous cellular membrane of his body had suppurated; but there existed several separate abscesses that did not communicate—one on each side of the loins, another on the side, one on the chest. The several abscesses were opened at two or three points, so as to prevent the matter from further bagging, and to give it from every part a free vent. Bark, with mineral acid, was prescribed, and nourishing diet, with porter and wine. And he immediately improved, and gradually entirely recovered.

VI. It still remains for me to notice the peculiar cachexia which occasionally follows the poisoned wounds of dissection. It resembles some forms of rheumatism; joint after joint has a disposition to fill with synovia, and become uneasy or painful from subacute inflammation. No specific plan of treatment is available. The cachexia wears out under the same rules, as to diet, and the use of alterative medicines, with the disorder it resembles.

This consequence is liable to follow when the primary symptoms have not been severe. Through it any lurking disease may be brought forward, or the body rendered more susceptible of casual disease.

[To be continued.]

NON-UNION OF FRACTURED BONES FROM SYPHILITIC TAINT IN THE CONSTITUTION.

UTILITY OF QUININE IN COMBINATION
WITH ALTERATIVE MEDICINES.

By JAMES B. THOMPSON, M.D.
Surgeon Accoucheur.

(For the Medical Gazette.)

JOHN MEIKLAM, ætat 47, a soldier, a married man, of a robust apparently

Good general constitution, met with an accident, by which his thigh bone was fractured at the lower third—a transverse fracture. After the consequent inflammation was got down by the usual treatment, the limb was put up in the ordinary manner, and the bones in perfect apposition, and all seemed going on well; however, at the end of the third week the bandages were opened, and on examining the limb in and about the fractured part, I was struck with the presence of a crepitus, and the non-existence of callus. I was rather surprised at this circumstance, as the case seemed, in all other respects, to have been going on as well as could be expected. On consideration, I was under the impression that there must have been something wrong, and I was suspicious that this patient might have contracted syphilis at some former period, or was more probably tainted by its constitutional effects, or that of the injudicious administration of some mercurial preparations. On making inquiries as to his former history and mode of life, I was enabled, after some considerable difficulty, to learn from him that, about seven years ago, when a bachelor, he had syphilis, and was treated for it by a dispensary surgeon; and, from what I could ascertain, he took pills night and morning to a very considerable extent. Taking this into account with the usual arduous and trying duties of a soldier's life, I was then, and from what I have seen since, confirmed in the opinion, that the non-union of the fractured femur, in this man's case, resulted from the venereal or mercurial taint in his constitution. I bandaged the limb anew, and put the man on the following treatment, namely, a combination of quinine with alteratives, and continued this treatment for about a fortnight, or eighteen days, when I had the curiosity to look at the limb, and was pleased to find that callus was being thrown out, and that union was beginning to take place. I continued the treatment for some ten days longer, allowed the man porter and his usual diet, and all went on well. I discontinued my further attendance after the sixth week; and have since frequently seen the man, the limb quite restored, and he going about his ordinary duties.

The foregoing case is, in my opinion,

a pretty good proof of the length of time during which the venereal or mercurial taint may remain, as it were, in a quiescent state in the system, without exhibiting any of its deleterious influences on the constitution of the patient; and I may be permitted to add the following instance, as another proof of this peculiarity in the disease:—

A young woman contracted syphilis at the age of 22. She was treated for it, and to all appearances was perfectly cured: in eighteen months after she got married, and, in due course, gave birth to a male child, who exhibited all the symptoms of venereal disease as are usually met with in such cases. The child was treated for this with the hydrargyrum c. creta powders, and got well after some time.

This young woman gave birth to another child in due time, who did not exhibit any the least indications of the disease, and was a remarkably healthy child. But what appears strange in this case is the following, and which, I think, will go to prove my first argument—that this woman, two years afterwards, gave birth to a third child, who was actually much more diseased, to all appearance, than the first child; and though this child was, by the greatest care and attention, got over the first effects of the disease, still, in after years, it was not what could be called a healthy child, and was, particularly every spring, subject to a pustular affection on the skin, particularly about the genital organs, and all the lymphatic glands seemed rather enlarged and indurated.

I do not feel disposed to offer an opinion on this rather anomalous affection; but it clearly would lead one to infer that it is probable these diseases, similar to venereal, may lurk, in the system, for a very long period. It would also lead one to the supposition, that a tainted parent may communicate to its offspring not exactly the venereal disease, from which that parent may have at some considerably earlier period suffered, but, as it were, another disease, modified in a very remarkable degree from the original contagious affection. This would appear to be the case in the instance of the third child, who had not exactly the venereal affection in its usual form,

but seemingly a complicated and modified affection, most affecting the glands which are particularly liable to the syphilitic virus. As to the case of ununited fractures, I am happy to be permitted to state, that Mr. Lawrence, to whom I mentioned the subject, said, that he did not at the moment bring to his recollection a case such as mine, but that his impression was, that syphilis would have the effect as stated above.

If we were to judge from analogy, which is, I imagine, a pretty safe way to arrive at conclusions, it does not appear to me that there is anything very remarkable or strange, after all, in the foregoing statements, as some gentlemen would seem to suppose. For instance, how many vegetable and mineral medicinal agents will, when given internally, remain for a very uncertain and protracted period in the patient's system, without producing any obvious effect; and all at once—when the patient and medical attendant are not prepared for the circumstance, or perhaps had forgot the occasion of having taken or administered these medicines—act with a powerful and poisonous effect, and often bring the patient to the brink of the grave. Tobacco, digitalis, colchicum, and several other active powerful agents, such as cicuta, conium, and belladonna, elaterium, &c.

As it may not be amiss to offer a few remarks on the general administration of mercury, I will just here state the great caution necessary to be observed by medical men, when called in for the first time, to persons with whose previous history or constitution they are not acquainted. This is particularly necessary in cases where the administration of mercury, in any shape, may be deemed advisable. For the indiscriminate and injudicious use of this medicine, and its after-effects on the constitution, become no doubt the fruitful source of various anomalous affections—cutaneous, as well as seriously affecting the more vital organs, and all the chylopoietic viscera in general.

One of the most remarkable facts connected with the exhibition of mercury, is, that some constitutions will be affected by a single dose, and produce decisive but mild ptyalism. I have

seen a young lady salivated by two grains of calomel, in combination with two and a half of James's powder. In other cases eight or ten grains may be given for a week, without any similar effect. Persons who have spent any time in warm climates, invariably require a larger and more frequent use of this medicine. I knew one lady, an officer's wife, who would take a scruple of calomel, every day, for three or four days, before it produced the desired effect. If, to the local action of this powerful remedy, we add the prostration of strength which accompanies, and the biliary derangement which commonly follows, its administration, we can have no great difficulty in accounting for the mischief which it occasions, if incautiously given, and not closely watched in its after-effects.

33, Gower Street, Dec. 1841.

TREATMENT OF BOWEL AFFECTIONS.

To the Editor of the Medical Gazette.

SIR,

I SHALL feel obliged by the insertion of the following remarks in your journal.

I am, sir,

Your obedient servant,
EDWIN ELLIS, M.R.C.S.

Lower Tulse Hill, Brixton,
Nov. 17, 1841.

It has frequently occurred to me that if there is one class of diseases more than another in which erroneous treatment is but too frequently adopted, it is bowel affections, but more especially diarrhoea of a protracted nature. I find again and again that the chief weapons with which it is combated are alteratives, sedatives, astringents, and antacids, but with what success is best known to the practitioners themselves. All I can say is, I have found what is called the soothing system any thing but a satisfactory one, and have been so frequently disappointed in adopting it, that I have almost given it up. Far be it from me to condemn it altogether, for there are many circumstances arising where no man of prudence or judgment would adopt any other plan. Again, in low and humid districts, which at all

times tend to induce too great a laxity of system, for common diarrhœa I believe sedatives and astringents very successful, though my own experience is opposed to it, (but the air of the neighbourhood in which I reside, is on the whole, keen and bracing); but, as a general rule, I again say, that I believe the treatment of cases of protracted or obstinate diarrhœa is but too frequently wrong; for whether one hears or reads of such cases, it is found that the patients remain ill for weeks, if not months, together, and not unfrequently sink. I ask, is not the treatment generally upon the soothing plan? The patient one day a little better, the next a little worse, and at last he gets well, or dies. It is not my intention to enter into a discussion as to the precise causes of diarrhœa, as I fancy there can be but little difference of opinion on the matter. Vitiating secretions, or a giving way of some obstruction of the liver, I believe to be the principal causes. What, then, is the treatment most likely to be successful? Is not a purging an effort of nature to relieve herself? to cast off something that is offensive to her? If so, does the soothing plan promise much? for that seems to me to be thwarting her; and experience will frequently bear one out that it utterly fails, for the diarrhœa is not checked, or if it is, the patient is any thing but well. My opinion (which is altogether based upon experience) is, that we are doing the greatest kindness to our patient when we are co-operating with nature, and give, not something to stop it, in the strict sense of the word, but something which will remove the cause of it; for the purging. I regard it as a mere symptom. And what follows? Why, when the cause is gone the effects cease. So that the sum and substance of what I have to say is, that I treat this complaint with aperients in preference to any other remedies; and they are blue pill, rhubarb, magnesia, but more especially castor oil. I believe this to be an invaluable remedy. I have known a purging to cease within half an hour after it being taken, which has utterly resisted astringents. I have found blue pill and castor oil cure a diarrhœa of six months' standing, when all other remedies recommended by eminent men have failed. I give it in the diarrhœa of

phthisis with perfect success. And I have now a lady who has been under my care with that disease for fourteen months, and whose death I am daily expecting; who, as soon as her bowels become irritable, asks for castor oil, and who has never taken it without being quite relieved for the time being; and in her case I do not think it could be said she has no tubercles in the bowels, for I believe they are full of them. Latterly, through extreme weakness, she has had an occasional dose of a composing astringent mixture, but almost invariably has she desired to have the aperient; for though the diarrhœa may have been arrested for a few hours, yet the nausea, the headache, and a general irritability of system, have almost more than counteracted the good effects of the medicine.

I have also found *ol. ricini* of essential service in irritation of the bowels after a mercurial course, when the ordinary remedies have utterly failed; and, be it remembered, in such cases the cause would be thought to depend more particularly on an irritable mucous membrane rather than vitiated secretions, so that sedatives and astringents seem to promise much. It must not be supposed for a moment I never use opiates, as there are times when it would be almost hazardous to do without them: they must be given at times, with a view to check excessive action as soon as possible, as well as to relieve the pain which so often attends it; but I seldom, if ever, trust to them to cure, as I know from experience relapse is but too common if they are successful at the time; so that my chief reliance would be placed on clearing out the bowels by means of the aperient I have mentioned; and I do not find that it produces more evacuations than when given under ordinary circumstances. I have often ordered it with a few drops of laudanum, which prevents griping and soothes pain. If I have been afraid of castor oil I have used olive oil, which is exceedingly mild. And I sincerely believe there are few cases where the patient has not strength enough to bear the remedy, if the stomach does not reject it; and I feel persuaded if many of the cases that are daily treated with sedatives, astringents, and alteratives, were put upon this plan, instead of being ill for weeks, perhaps months

together, they would be well in a few days.

I am well aware that at times this plan of treatment seems very bold practice, and that the patient is quite frightened at it; but desperate diseases require desperate remedies. I believe we yet understand very little of the chemistry of the human stomach, and that it is almost a mystery to us; so that if I were attacked with an obstinate diarrhœa, I would far rather trust to a dose or two of castor oil to cure me than to all the other remedies that have been so ingeniously devised for that purpose. A little alterative to correct the secretions, a little sedative to lull the pain, and a little chalk to stop the purging and neutralize the acid, seem a pretty combination; but, according to my notion, it either does not do enough, or altogether fails; and it does not satisfy me to be told that the patient did eventually recover. I like to be cured quickly as well as safely, and should always resort to that plan which promised soonest to relieve me.

In bringing these remarks to a conclusion, I beg to say I make no pretension either to novelty or originality (there is nothing new under the sun, says Solomon); my object is simply to bring the subject before those of my professional brethren who have not given this plan of treatment that attention it seems to me to deserve; and if it only leads to one patient being cured by it, I shall be abundantly recompensed.

AMPUTATION DURING PREGNANCY.

To the Editor of the Medical Gazette.

SIR,

I SEND you the following case for insertion in your highly valuable GAZETTE, if you consider it of sufficient interest to place before your readers.

There being few cases recorded of operations during pregnancy is my reason for forwarding it for publication.

Yours very respectfully,
WILLIAM TARLETON.

New Street, Birmingham, Dec. 2, 1841.

Harriet Felton, æt. 27, was admitted into the infirmary on the 30th of March, 1841. For six years she has been suffering from necrosis of the tibia,

caused (according to her own account) by exposure to extreme cold. One sequestrum, which is in the possession of my friend Mr. Baynham, measures $5\frac{1}{2}$ inches in length, and in the broadest part measures $1\frac{1}{4}$ inch, and appears to be nearly the thickness of the bone from just below the insertion of the ligament of the patella to the length above stated. Nearly the whole of this portion of dead bone remained exposed for thirteen months, and came away in June, 1839, after which time the sore gradually became less; but about twelve months afterwards the leg became worse, and the necrosis was extending nearer to the knee-joint, and then (in July, 1840) she went up to London for the purpose of consulting the late Sir A. Cooper, who told her that at no very distant period she would be obliged to have the leg amputated. The disease at the time of admission had evidently extended into the knee-joint, and her general health was sinking. The only hesitation I had in advising amputation was, that she was four months advanced in pregnancy. On consultation, however, with my colleagues and other surgical friends, it was deemed advisable that the leg should be amputated at once. On the 1st of April, I removed the leg by the circular operation, above the knee. No unpleasant symptom occurred after the operation worthy of remark; the wound healed, and she has a good sound stump, and was delivered on the 4th of September of a very fine boy, whom she now suckles.

MEDICAL GAZETTE.

Friday, December 17, 1841.

“Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso.”

CICERO

MEDICAL LAMENTS.

THE art of grumbling is not quite so easy as it may appear. Many persons imagine that it comes naturally, like choice Italian to a Tuscan—*dalla mamma e dalla culla*—from the breast and the cradle; and that an ardent com-

plainer has only to pour forth his unpolished strains to be universally pitied and listened to. This is not the case, however. Hatred and resentment, quoth Adam Smith, are passions which cannot be regarded as graceful or becoming, till they are "brought down to a pitch much lower than that to which undisciplined nature would raise them." In short, the exposition of grievances, particularly of a petty kind, demands both tact and temper; and hence we think that the pamphlet of an ingenious physiologist, now lying before us*, will not be of great service to the cause which he advocates, and will even appear extravagant to the more reasonable of his fellow malcontents. This lusty pamphlet, we must observe, was delivered as an oration before the members of the British Medical Association, a couple of months ago; and as limners, when painting for public exhibition, colour up their designs to vie with the gorgeous tints around them, so we may suppose that Dr. Grant deepened the shades of his discontent till he felt sure that it was blacker than any that overcanopied the assembly around him. "Whatever is, is wrong;" such is the maxim which Dr. Grant illustrates throughout his ninety odd pages. All medical corporations are in the wrong, generally and specially. The Worshipful Society, for instance, have a painfully scanty curriculum, in which they have omitted pathological anatomy, clinical surgery, and what not, seeking, "like the London College of Surgeons, to inundate the profession with persons as ignorantly, or cheaply educated, as the legislature or decency would permit." Then their classical examinations are sadly superficial; while, on the other hand, the Irish apothecaries are "waggish," and for the examination of their mere appren-

tices require the Greek Testament, Homer, Lucian, &c. &c.; so that, we suppose, the true way to rectify these classic errors; and obtain a wholesome average, would be to add together the Dublin *plus* and the London *minus*, and then divide by 2.

If Blackfriars is bad, Lincoln's Inn Fields is fifty times worse. "Their curriculum," says the prince of malcontents, "is much more worthy of their now separated partners, the barber-dentists, than of the enlightened surgeons of the present day." But you will probably say, gentle reader—there is one of their late reforms which Dr. Grant *must* praise—the institution of anatomical studentships. This is so intimately connected with his favourite pursuit that he will give Lincoln's Inn its due; and here, at least, will be seduced into praising a medical corporation. — How little you know the implacable pamphleteer! Hear what he says on this topic. "Still desirous, however, of attempting something to conceal their barber origin, and of appearing to countenance, if they could not support, science, they announced the proposal, not less economical than thrifty, of hiring one medical student for £100. wages, to work for twelve months at the menial occupation of preparing curiosities for their exhibition."

As for the University lately founded in this metropolis, he calls it a "new and unique specimen of an irresponsible corporate junto, mis-named the University of London." Moreover, "if the Treasury expenditure in behalf of knowledge be the measure of the intelligence and power of a State, the metropolis of England will rank next to Tombouctou in the support of universities, as it does also in their construction." So that even St. Andrew's and Erlangen are not so thoroughly African as London!

* On the Present State of the Medical Profession in England, &c. By Robert E. Grant, M.D., F.R.S.L. and Ed., &c. London, 1841.

And as all goes wrong in corporations, so all goes wrong with individuals. Philarchus, a physician, an account of whose career is interwoven with the progress of this unhappy oration, begins at page thirteen with every prospect of success, but dies at page eighty-eight "the puppet and the jest of a worthless, weaver-examining, drug-testing corporation*."

But all the faults of all the other corporations put together are mere trifles compared to the delinquencies of the College of Physicians—so many warts to Ossa. In chastising these misdeemeanors with a severity proportioned to their magnitude, the author falls, as your professed grumbler is apt to do, into sundry inconsistencies. When Croaker, in "the Good-natured Man," informs us of the scores of Jesuits to be found between Charing Cross and Temple Bar, laments the progress of earthquakes, and complains that the ladies wear nothing of their own manufacture about them, except their faces, we smile at his talent for being miserable, but do not detect any inconsistency in his sorrows. Jesuitism and painted faces may well go together. But the statements of our medical croaker are not only exaggerated but clashing. If the College of Physicians has been "very properly relieved from the troubles of attending the sick by the sagacious apothecaries," as he says at p. 45; if it "is an object of universal contempt by its continued personification of an arrogant, insolent, ignorant, and presumptuous quack," as the same sweet-tempered gentleman asserts at p. 68, why should he, or any one else, care about its by-laws? Why need he la-

ment its exclusion of this doctor, or its preference of that one? Who cares about the rules and regulations of a ruined club, or desires *laudari à spretis viris*?

The old bone of contention was, as every one knows, admission to the Fellowship. Yet since "it is notorious that the mass of medical knowledge and skill has always been confined to the misnamed Licentiates;" and since Dr. Wells, whom he quotes, says that the three weakest physicians whom he ever saw were Fellows of the College, one again wonders why Dr. Grant should make a fuss about the old regulations touching election to the Fellowship. In addition to this, he has made a notable discovery, that by the admission of Licentiates, they are already as much Fellows of the College as the President himself (p. 80-1). This can be seen by a simple inspection of the statutes. So charming a discovery (which stultifies several pages of his own angry lamentation) will remind some of our readers of a pleasant expedient in the "Right of Precedence," a paper attributed to Swift. The author's plan was to sit at table as nearly due east as possible; "and the joke is, that by this means I take place (for place is but fancy) of many that sit above me; and while most people in company look upon me as a modest man, I know myself to be a very assuming fellow, and do often look down with contempt on some at the upper end of the table."

Again, Dr. Marshall Hall is "to add to the glorification of the London College this season, in the Gulstonian Lectures." But how can this be? How can one add to the "glorification" of a body which has sunk into "universal contempt?" In another page we read of two physicians who have added another spot to the "spotted history" of this illiberal corporate institution, by refusing its fellowship. But

* From different anecdotes in the history of Philarchus, it is clear that his life must have extended to the somewhat unusual length of two hundred years and upwards. Among other things, he "converted the College into a kind of ladder, leading from the *canaille* of Licentiates, by a long winding course, to his own high station."

if this history is half as spotted as Dr. Grant represents it, the College must, long ere this, have been benegroed beyond all possibility of shewing a new stain. It would be like spirting a drop of ink on a black coat.

Then, again, the distinction between Fellows and Licentiates is a religious one, says Dr. Marshall Hall, whom our author quotes with approbation. For *is* read *was*: but putting this trifling correction out of sight, will any one believe that Dr. Grant sneers at the College for intermeddling with the M.D. examinations at the University of London, and seeking "to admit into their body Mahometans, Jews, Catholics, and all other forms of Dissenters"? The simple fact is, that, under the old system, Dissenters of every variety were admissible as Licentiates; under the new one, they are admitted as Fellows also: what more or less would the Professor have?

The College, he says, advertised their willingness to make physicians, and sell diplomas in medicine. If this design had been successful "it would have completed the ruin of our profession by the promiscuous and indiscriminate admission of 'weavers, women, artificers, smiths,' " &c. The author has a strong dread of the admission of weavers into the profession; but whether from the continued distress in Spitalfields, or other causes, no weaver has presented himself, within our time, for examination at the portals of the College; so that we dismiss all melancholy on that score. Nor, in spite of the laxity of the University, which he ranks next to Timbuctoo, do we know of any followers of Mohammed on the lists of the College.

As for this new scheme completing the ruin of the profession, every one who reads Dr. Grant's statement a couple of pages further on, must allow that it is utterly ruined already. The

medical community of England is "not only destitute of redress or appeal against arbitrary oppression, but more disunited, disaffected, and degraded, than the subjects of eastern despots; and more in need of a bill of emancipation than ever were the African slaves."

In spite of this sad picture, one might think that a medical millennium had arrived, from the eagerness with which the Professor gloats over the history of obsolete grievances, and laments the fate of sound practitioners excluded from the fellowship by "illegal" by-laws. (As a general rule, by-laws "are too infamous to meet the public eye.")

It is curious that a body intending to crush rising merit, and oppress their fellow-practitioners by means of illegal by-laws, should have taken every opportunity of having their sense expounded by the judges of the land, and should consequently have governed *against* the law, but *with* the constant sanction of the Court of King's Bench. We should have thought that the highest courts of justice were the best interpreters of the law; and though Dr. Grant is in this against us, Sir E. Coke is with us*. When considering the famous decision given by the Judges in 1607, in favour of the College, the Professor does not know whether to admire more the duplicity of the doctors' questions, or the dictatorial ignorance of the lawyers' replies. So that he ranks among the *overseen*, to use Sir Edward Coke's word.

As to the remedy for every evil in our profession, it is too universally known to need mention—it is "One Faculty," and "a Central Board." If

* "We never heard it excepted unto heretofore, that any statute should be expounded by any other than the Judges of the Land; neither was there ever any so much overseen as to oppose himself against the practice of all ages to make that question, or to lay any such unjust imputation upon the judges of the realm."

(2nd Inst. 611.)

any thing can restore us to happiness, it is this :—

Occidet et serpens, et fallax herba veneni
Occidet ; Assyrium vulgò nascetur amomum.

The quack shall fall, and all his poisonous store,
While genuine drugs shall bless our British shore.

Yet, we would humbly venture to suggest a doubt, whether it is quite certain that the new board, though comprehending “ballots by authenticated lists transmitted to the secretaries, uniformity of education, rank, title, and privilege,” &c. &c. would stand as high in public opinion as some of the old abominable corporations. Public opinion is capricious, and sometimes prefers mere human frailty to absolute infallibility. Every one recollects the story of the Spanish Chief, who took a young Englishman into his medical service on observing the name of Sir Astley Cooper on his diploma. Now it is just imaginable that the names tacked to the diploma of the bran-new Central Board would have less weight in Biscay; just as we have known the notes of another old corporation, the Bank of England, pass current in countries, where those of a new impeccable joint-stock company would only be stared at.

NOTES FROM CLINICAL LECTURES,

*Delivered during the present Session,
at Univers. Coll. Hospital,*

BY C. J. B. WILLIAMS, M.D., F.R.S.

Professor of the Practice of Medicine,
and of Clinical Medicine.

Erysipelas of head and face—Albuminous urine—Pink deposit—Pathology—Treatment.

JOHN FITZJOHN, æt. 39, butcher, admitted Oct. 14th; single; strong built; hair and complexion dark; habits intemperate. Resides in a healthy situation, and always enjoyed good health until the present illness, for which he cannot account, not having been exposed to wet, cold, or contagion, nor received any blow or scratch on the face or head, nor had any thing to do with distempered cattle.

Twelve days before admission, when quite well, and walking in the street, was suddenly affected with smarting burning pain in the nose and eyes, which in a few minutes became very red, and so much swelled, that before he could get home (in a cab) both eyes were closed. The redness and swelling, with scalding pain, extended over the head and face, and he became very hot, and suffered from thirst, restlessness, and some headache, but no giddiness or sickness. He took medicine, and had cold lotions applied, but was not relieved, and last night became delirious.

At present the patient is very restless, and rather confused. He complains of the same symptoms, and chiefly of the burning pain in the neck, which is now also red and swollen, and in parts covered with blisters filled with serum. The redness of the face is more livid, and less tense and painful than that of the neck, and the vesications have nearly dried up. Skin generally rather hot, not perspiring. Tongue white, moist. Thirst. Urine scanty and high-coloured. Pulse 120, compressible. Bowels said to be open.

The nature of this case was very evident from the external characters of the disease. It was the diffused and spreading inflammation of the skin, causing serous effusion, which raised the cuticle into blisters, and distended the looser parts of the subjacent cellular texture—erysipelas, or rose of the head and neck. But although the nature of the disease was thus obvious from its physical signs, we had to consult the general or functional symptoms to know its character, its effect on the constitution, and the treatment that would be most proper. These announced much functional disturbance, especially of the sensorium and of the secreting organs. Erysipelas of the head, attended with delirium, restlessness, or stupor, is always a serious disease, and its long duration in this case, twelve days without improvement, rendered the prognosis very doubtful.

The sudden commencement of the erysipelatous inflammation in this case is very remarkable; he said that he felt almost as if he had been stung in the face; and it might be imagined that such an effect could be produced only by some acrid or poisonous matter applied. But no such external cause could be traced; and although we cannot prove that some subtle aerial poison may not have operated, it is equally possible that the cause may have been internal. Diseases arising from a morbid matter generated within the body, sometimes originate in a manner as sudden and as local as this did. Gout and rheumatism often begin as a severe cramp-like pain in a spot, which is speedily followed by specific forms of inflammation. Most pathologists suppose that erysipelas is

caused by a peculiar animal poison, communicated from without; but you are not to be too much shackled by this opinion.

There have been in our wards several cases of erysipelas of the head and face within the last twelve months, and you may have observed that, at the commencement, I have generally adopted a very moderate antiphlogistic treatment, consisting of salines with small doses of tartarized antimony, and mild mercurial aperients; with warm fomentations to the head and face; and a few leeches to the temples, only when, with delirium or stupor, the pulse in the carotids has been hard. Under this treatment the erysipelas has declined in two or three days; and then the softness of the pulse and coolness of the skin have guided us very soon to the use of tonics, beef-tea, and if the weakness be great, of ammonia and fermented liquors. The recoveries have been speedy and complete. If the antiphlogistic treatment is used too freely, or too long, the after-depression is extreme. If tonics and stimulants are used too early, the erysipelas is prolonged, and any concomitant internal inflammation seriously aggravated. It is a nice point of practice to mark the fit time for changing the treatment.

In the present case the antimonial saline was employed, and eight leeches were applied to the temples. The patient became more delirious in the night, but was tranquil in the morning. The antimonial was then combined with a small quantity of morphia, to allay the restlessness, which seemed to depend more on irritation than inflammation of the brain, the pulse in the carotids being soft, and there now being little febrile heat.

It was apparent that this was a bad case; the system failing to throw off the disease, which had lasted a fortnight; and I mentioned at my second visit that I suspected there was something wrong in the great excreting organs, the liver or kidneys. Before the next visit the urine was examined, and was found to be coagulated by nitric acid and heat. There was no proof of disease of the liver; its limits, as tested by percussion, were not extended; but the bowels were costive.

You often hear it said, that some persons are bad subjects for disease; that they have broken-down constitutions, and the like; so that they cannot struggle with, or throw off acute inflammatory or febrile diseases, or do not recover from accidents, as others do. Sometimes this bad state of the system may be traced to organic mischief, the products of a previous disease: no such cause seemed to have existed in the present case. In other instances, again, excesses of various kinds have injured the constitution: our patient

might be of this class, for he had indulged very freely in spirits and porter. But how does habitual intemperance impair the constitution? In various ways; but in none more commonly or more surely, than by injuring the structure and function of the great excreting organs, the liver and the kidneys. These glands are especially liable to suffer from the influence of alcoholic poison; one as the first parenchyma through which it passes on its way to the general circulation; the others as the great emunctories for all extraneous matter foreign to the blood. On opening the bodies of inveterate drunkards, we see the extreme and fatal effects of this influence in very obvious structural disease: cirrhosis in some of its varieties in the liver; and the kindred affection of the kidney, granular degeneration, in its several stages and forms. But there are slighter degrees of the same lesions, induced by the same cause, also injuring the functions of the organs, but to no serious extent, until some severe inflammatory or febrile attack, or serious accident occurs, which further tries the injured organ, and discovers its weakness. Then, to complicate the new disease, the bile or the urine may be imperfectly excreted; jaundice or albuminuria may result; the blood becomes poisoned by the retention of excrementitious matter; the inflammatory or febrile disease assumes a typhoid type; and, if a critical discharge do not happen to the relief of the system, death ensues from the combined influence of the recent attack, and the previous defect in the excreting organ. On examination after death we find, in addition to any mischief caused by the recent disease, a congested state of the liver or kidneys, with an unusual predominance of the lighter tissue of the former, sometimes with increase, sometimes with diminution, of the bulk and of the cohesion of the whole organ; or in the kidneys a partial mottling of the cortical structure, making it fragile and coarse, and often presenting soft light-coloured grains, easily detached from the tissue, and giving its exterior an uneven surface. These slighter deviations from the healthy structure are generally passed over without notice; and, in truth, they are obvious only on attentive examination, and on comparing them with healthy standards.

I may have an opportunity of recurring to this subject in speaking of cases of dropsy with albuminous urine; but I mention it now because I consider the case before us to be an example in point. His kidneys probably acted pretty well so long as the balance of health was preserved: but now, under the disturbing influence of a serious febrile disease, which itself tends to impair the secretions, the kidneys failed in their office, and the urine was very scanty and albuminous.

Now the means most likely to be useful

under such circumstances would be those which tend to increase the defective secretions; and because the surest to operate, as well as because the costiveness indicated their employment, on the 16th purgatives were given—a senna draught to begin with; and two grains of calomel, to be repeated every six hours.

On the 18th the bowels had been very much opened, and the motions were at last dark-green, and very offensive. The erysipelas had now faded in the face, and had not spread in the neck. The patient was much more quiet and rational. The calomel was stopped. On the 19th the improvement continued, but the weakness increasing, he was allowed beef-tea, and two ounces of port wine, which was the next day, at his own request, exchanged for half a pint of porter. On the 20th, the bowels remaining very loose, the porter was omitted, and an astringent mixture of decoction of logwood, with tincture of kino, was given. This failed to arrest the diarrhoea, which was, on the 23d, accompanied by some tenderness of the abdomen. The following medicines were then prescribed:—

℞ Hydrarg. c. Cretâ, Pulv. Ipecacuanhæ
Comp. aa. gr. iij. Fiat pulvis ter die
sumendus.

℞ Plumbi Acetatis, gr. ij.; Extr. Conii,
gr. iij. Fiat pilula bis die sumendus.

These might appear to be incompatible prescriptions—the mercury to increase, and the sugar of lead to diminish, the intestinal secretion. Yet I have found it most useful to exhibit these remedies simultaneously in many cases of diarrhoea, depending on irritation or slight inflammation of the mucous membrane of the intestines, in weak subjects. The mercury seems to act chiefly on the upper part of the canal, and on the liver, and by gently increasing their secretions derives from the other parts of the canal, whilst the sugar of lead operates as a superficial astringent on the mucous membrane generally. On the 26th the bowels had become quiet, and free from pain, whilst the traces of erysipelas were progressively disappearing; and the pulse, which had hitherto ranged from 120 to 130, now fell below 100. The pills were omitted, and the powder given once a day only.

At this time a remarkable change was observed in the urine. When the bowels were very open, none could be saved for examination. Now it was copious, acid, and no longer coagulable, but deposited a very abundant bright pink sediment, which continued to appear for ten days, after which the urine became clear. At the same time he began to complain of some pain in the left shoulder-joint, which was somewhat swollen, with evident fluctuation. This pain in-

creased so much as to deprive him of rest on the 6th of November. The swelling was slight, and without redness. It was acupunctured, and a few drops of serum only escaped; but the pain was much relieved. It returned again severely on the 11th, with extreme tenderness, and inability to move the joint. Eight leeches were applied without relief to the pain, which again was completely removed by acupuncture. On the 18th a small fluctuating tumor, of the size of a walnut, appeared under the scalp of the right parietal bone: the pericranium being thickened around it caused a hollow under the tumor. On acupuncture pus appeared, which was set free by a lancet, and the tumor disappeared under poultices.

On the 28th October a quinine mixture was tried, but this causing a return of uneasiness in the abdomen, was omitted; and on the 6th of November he was given decoct. sarzæ, with liq. potassæ, to which was afterwards added iodide of potassium in two-grain doses. The man is now (Nov. 25th) free from complaint, except some stiffness and pain in the left shoulder-joint; for this a liniment, with iodine, has been ordered, and he will be well enough to go out in a few days.

I wish to call your attention to the state of the urine when its quantity became increased after the diarrhoea. It presented a very perfect specimen, of the pink deposit, considered by Dr. Prout to be the purpurate of ammonia—the murexide of Berzelius. This pink sediment is said to occur chiefly in connection with disease in the liver, or suppuration in some organ. Of the liver disease there was no evidence in this case, further than what might be deduced from the intemperate habits of the patient. Neither was there any proof of there being suppuration at that time; nothing more than serum oozed from the punctures of the shoulder; and the abscess in the scalp did not form until after the pink deposit had disappeared. But the appearance of the deposit corresponded with the decline of the fever; and it might perhaps be considered a variety of the ordinary critical lateritious or lithic sediment, modified by the diseased state of the kidneys, and derived from the excrementitious matter which had been, during the continuance of the fever, accumulating in the system.

The inflammations which affected the shoulder and the scalp were not erysipelatos, but of the common kind: such sequels are often observed, excited by what might be called the dregs of the disease.

Acute rheumatism—Pericarditis—Treatment.

We have had fewer cases than usual of acute rheumatism. The only one which I

have not noticed is that of William Price, æt. 13, tailor's apprentice, admitted October 26; of slight make, sedentary habits, well fed and clothed; health generally good. Three days before admission, after sitting at work in a draught, he felt ill, and became feverish in the evening. The next day he had severe pain in the hips and loins, which yesterday shifted to the elbows, wrists, ankles, and other joints.

27th.—Face flushed; skin hot and dry; pulse frequent and sharp; tongue furred; bowels lately opened by medicine. There is pain, redness, heat, and some swelling, of the ankles; and pain of an aching character, increased by motion and at night, but not by warmth, in the elbows, shoulders, knees, hips, and loins; no headache; no palpitation.

Mittatur Sanguis e brachio ad ℥viij. Ter die sumat Calomelanos, grs. iij.; Morph. Hydrochlor. gr. $\frac{1}{8}$.

28th.—Pain much relieved by bleeding; but redness and swelling have now appeared in the fingers; urine scanty and high coloured.

Statim capiat haustum Sennæ. R Vini Colchici, ℥xv.; Sodæ Tart. ℥i; Sodæ Sesquicarb. gr. x.; Aquæ ℥i. Fiat haustus ter die sum.

29th.—Skin cool; urine abundant, and rather high coloured, specific gravity 1.025; some dulness in region of heart, the natural sounds of which are rather muffled near the sternum, and the first accompanied by a slight murmur heard best below left nipple. No pain in the chest, dyspnoea, or palpitation.

30th.—Restlessness, and more heat of skin; pulse 104, sharp; pains of the joints the same; urine more scanty; thirst; bowels open; mouth not sore; the murmur with the first sound of the heart, increased, and is heard at mid sternum and in the neck; dulness to the left of the sternum reaches to the third rib; some tenderness on percussion over the heart.

C.C. Regioni Cordis ad ℥viij; Augeatur Calomelas ad gr. iv.

Nov. 2d.—Much better; quite free from pain and swelling in the joints; dulness and murmur in the region of the heart diminished.

Repr. Calomel. horâ somni tantum.

4th.—Free from complaint; dulness and murmur almost gone.

5th.—Discharged cured.

The nature of this case was very evident; the pain, redness, and swelling, of the several joints, characterising it as rheumatism, and the fever accompanying it showing that it was of the acute form. Sedentary habits might be considered a predisposing cause; and cold long applied was an efficient exciting

cause. The swelling was not considerable, but it seemed to affect all tissues of the joints, constituting the variety of rheumatism which I have called *diffused articular*, and which, in my lectures at the College, I have stated to be the most readily cured by antiphlogistic treatment.

Great relief followed venesection and the use of calomel and opium; both common antiphlogistic measures. But the rheumatism was not cured, and began to appear in fresh parts, showing that the morbid matter was still in the system, ready to excite inflammation any where. The indication was to get rid of this matter; and for this purpose colchicum, in a saline mixture, was given. From experience we know this to be the best anti-rheumatic remedy: to explain its efficacy we can now refer to the experiments of Professor Chelius, of Heidelberg, which have been repeated, with similar results, by Dr. Lewins, of Leith. These gentlemen found that colchicum increases the solid contents of the urine, particularly the urea and uric acid. In the present case its use was followed by abundant flow of urine of high specific gravity. By thus eliminating from the blood excrementitious matter, it removes from the system the cause of rheumatic and gouty inflammation. It has not much power to reduce inflammation itself; hence, if this have been already produced, the propriety of blood-letting and other antiphlogistic measures.

Blood-letting is a most important preliminary measure in all cases of severe acute rheumatism; but it should be by venesection, and never, in my opinion, from the inflamed joints. Leeches speedily take away rheumatic inflammation from the parts to which they are applied; but they do not remove its cause from the system; and so long as this remains it will excite inflammation somewhere: if not in the joints, it may, and often does, in the heart: nay, inflammation is very frequently in the heart at the same time that it is in the joints; and to cure the latter, by local means, will pretty surely increase the cardiac inflammation. Leave alone the joints, and reserve all means of local depletion for the heart, if it should be attacked, which I have found it to be, in a greater or less degree, in three-fourths of the cases of acute rheumatism which I have seen; although in not one-half of these cases was there any complaint of pain in the chest, or palpitation. The physical signs, dulness and a murmur in the cardiac region on the 29th, gave proof of the presence of some inflammation of the membranes of the heart. On the 30th these were more evident, and the general symptoms also showed an increase of fever. The cupping to eight ounces in the region of the heart, entirely checked this attack, and the former remedies continued to remove its

effects, so that in a few days the boy was free from complaint.

Painters' Colic : Pathology—Treatment.

I would next direct your attention to the case of William Brooks, who has been suffering from a severe attack of painters' colic. By the by, his disease is marked in the book *Colica Pictonum*, which I do not think quite correct; this means the colic of the Pictones, or inhabitants of Poitou, which, like the colic of cyder countries, is by no means proved to depend on lead, but seems to be induced by acid drinks. I have seen the disease of cyder countries, and I have been unable to trace it to the operation of lead. *Colica Saturnina*, à *Plumbo*, or *Pictonum*, would be the more correct term for the present case.

The patient was under my care for a similar attack in the summer, and the history, as then reported by Mr. Barnett, and the treatment, were nearly the same as in the present attack.

W. Brooks, æt. 34, admitted July 19th, painter, well formed, and of good general health, but has several times suffered from the colic of his trade. The last attack occurred about seven weeks ago, after having been much employed in "flatting" (that is, painting with oil of turpentine, which, no doubt, volatilizes the white lead). He was then salivated, and got better in the course of a fortnight; but he does not think that he entirely recovered, for he has been weak ever since. He felt sick all last week, and on the 17th, whilst at work, was taken with trembling, faintness, and violent pain in the abdomen, followed by vomiting. He applied as out-patient at this hospital, and was given calomel and opium, followed by castor-oil and turpentine; but these did not operate, and the symptoms becoming more violent, he was admitted an in-patient. He then had violent pain in the umbilical region, occasionally so severe as to oblige him to draw up his legs. Feels very sick; bowels have not been opened for three or four days; abdomen feels tense and hard, and there is much tenderness near the umbilicus; tongue dry, and covered with a dense white fur; pulse 80, compressible; complexion sallow. There is a pale bluish line along the margin of the gums.

℞ Hydrarg. Chlorid. gr. iv.; Extr. Belladonnæ, gr. ss. Cap. statim.

℞ Olei Crotonis ℥ij.; Extr. Belladonnæ gr. ss. micæ panis q. s.; Fiat pilula 3tiâ. quâque horâ adhibenda donec plenè soluta fuerit alvus. Abdomini admov. hirud. xij.; et postea foveatur abdomen.

20th.—Vomited last night; and after taking four of the pills the bowels were very

freely opened. He has been quite easy ever since, and there is no tenderness or tension of abdomen. Slight nausea; some pain across the loins, and tenderness in the soles of his feet; pulse natural.

℞ Aluminæ Sulphatis gr. x.; Aquæ Menthæ Pip. ℥iss.; Acidi Hydrocyan. dil. ℥v.; Fiat. haustus ter die sum.

21st.—Continued well, but the bowels not being opened he was ordered an ounce of castor-oil, which, after operating, brought back a slight return of pain in the belly. This was speedily relieved by adding $\frac{1}{2}$ grain Extr. Belladonnæ to his draught. After this he only complained of pain and tenderness of his legs and soles of his feet; after taking a few doses of quinine he was dismissed cured Aug. 3d.

He remained quite well till Nov. 4, when, after being engaged in a long "flatting" job, slight pain again affected his bowels, which had been for some days costive, until the 5th, when they were opened by castor oil. The pain increased to the time of his admission, Nov. 5, and was then very violent about the umbilicus, and extending to left hypochondrium; increased at intervals, and increased by pressure. He feels great coldness in legs and feet.

The same treatment as before was employed, and with equal success, except that a turpentine injection was necessary to aid the pills in opening the bowels; and the pain in the abdomen was not entirely removed till the 11th, when the pupils were considerably dilated, and there was slight heat in the throat from the belladonna.

Again on recovery from the colic, this patient complained of tenderness and pain in his legs and feet, which occasioned his detention in the hospital till Dec. 2. To remove these, which were considered nervous, he was given first the muriated tincture of iron, then sulphate of quinine, and lastly iodide of potassium with decoct. cinchonæ.

The effect of lead on the bowels seems to be to impair their peristaltic action, whilst if it do not increase, it certainly does not impair their sensibility. Unable to contract on their contents, portions of the intestines become distended with fæculent matter and gas, which, irritating their sensitive fibres, cause the severe colicky pains so much complained of. At first these pains are often relieved by pressure, which counteracts the distension; but often the bowels become so generally sore and tender, from the continuance of the irritation, that external pressure is hurtful. So too, if the bowels be not relieved of their contents, enteritis may result with all its pernicious consequences.

In the present case, as usual, the great indications were to stimulate the paralysed intestines into action to expel their irritating

contents, and at the same time to lower their sensibility, and thus relieve the pain. As there was tenderness as well as pain, it was thought safe to apply leeches and fomentations, to remove any inflammatory affections that might have commenced; but the chief means of fulfilling the indications were by purgatives and narcotics. The purgatives chosen were of the most active kind, calomel and croton oil, under the impression that those which can soonest answer their end are in truth the least irritating. The narcotic selected was extract of belladonna; its peculiar eligibility depending on the fact that although powerful in deadening sensibility and convulsive action, it does not appear materially to impair the vermicular motions of the intestines, or to arrest the secretions, as opium does. In my experiments on animals, I was surprised to find, in animals poisoned with belladonna and stramonium, how well the intestines retained their irritability, when that of the bronchial fibres was quite destroyed. In this and other cases in which I have tried it, this combination answered very speedily and satisfactorily.

After the bowels were fully opened and the pain relieved, alum was given to promote the tonic contraction of the intestines, still combined with belladonna to prevent a return of pain. Alum has been much given of late in Paris, as a remedy in painters' colic; and I believe that its efficacy depends on its local tonic or astringent effect; but it is of no use till after the bowels have been well opened.

The neuralgic tenderness and pains in the legs, which the patient complained of, after both attacks of colic, might be ascribed to the direct presence of lead in these parts; but I am more inclined to class it with the cramps of cholera and other affections attended with irritation of the intestines. Pains and cramps in the lower extremities are very common symptoms of disorder in the colon. They probably depend on a reflex action, by which sensations as well as motions are excited in distant parts. Many other instances of what are called sympathetic pains are probably of this kind: such as the pain in the right shoulder with disease of the liver, pain in the breasts in dysmenorrhœa, &c.

LIFE INSURANCE.

To the Editor of the Medical Gazette.

SIR,

WILL you allow me to say a few words on the subject of Insurance Offices in reply to your correspondent "Medicus," who insists

that the medical fee ought to come from the individual desirous of insuring, and not from the office; because the office requires such individual to bring a certificate of his soundness from his own medical man. "It makes no difference," says Medicus, "whether Mr. — brings this certificate to the office himself, or whether he authorizes the office to apply for it in the usual way, by inquiries addressed (by his own desire) to his medical friend and referee, whom he has requested and authorized to answer such inquiries about himself." True, it makes no difference; the questions are put by the office, and not by the parties desirous of insuring, who, in fact, knows not what these questions are: he has expressed his desire to insure his life at their office; he is very well satisfied with his own state of health; the Directors are satisfied with respect to his age and general appearance, but they require still further particulars, and request a reference to some medical man to whom the party is well known, and by whom he has been professionally attended. This is all very proper; the reference is given, and the necessary questions asked; but by whom and for whose security and satisfaction are these questions asked? Not by the parties desirous of insuring, but by the Directors of the office, and for their own security. The patient has merely given the name and address of his medical attendant. Permit me, sir, to illustrate this by an imaginary analogous case. An estate is offered for sale, which I am inclined to purchase, its situation, extent, and appearance being agreeable to my wishes, but I require the present proprietor to furnish me with a good and clear title. This he assures me he can do, the estate having descended to him from his grandfather and the title has never been disputed; but not considering myself qualified to decide on the validity of the title, I require the opinion of a legal adviser. Now I would ask Medicus whether I am to pay this legal adviser, or refer him to the proprietor of the estate? Again, suppose I am invited to dine with a friend, whose wine has a peculiar rich and fine flavour. I inquire whence he obtained so choice an article, and he kindly furnishes me with the name and address of the wine merchant, who on my application readily sends me a supply. Who is to pay for this wine? I who have given the order to the merchant, or my friend who has kindly given me his address?

I am, sir,

Your obedient servant,
G. HARVEY.

Castle Hedingham,
Dec. 14, 1841.

COLLEGE OF SURGEONS.

To the Editor of the Medical Gazette.

SIR,
IN your number of Nov. 19th last, you suggested, that “they alone who practise surgery exclusively should be admitted to vote in the election of the Council” of the College of Surgeons. As Abernethy, &c. surgeons to the London Hospitals, prescribed most readily for medical cases, and it is probable that their successors do likewise, and as provincial hospital surgeons almost invariably act as general practitioners, I would ask where electors, qualified as you would wish, are to be found?

Might not the power of voting rather be granted to the senior members of the College; if not to all, at least to those of a certain standing, who have given gratuitous attendance at recognized hospitals (metropolitan or provincial), whether they practise surgery exclusively, or attend to medical and surgical cases, provided they do so legally.

Would not such an arrangement tend to suppress that practice, which, under the title of “pure surgery,” leads men of an honourable profession to injure their reputation by practising medicine in disguise, and to show bad examples to druggists and quacks.

I am, sir,
Your obedient servant,
CHIRURGUS.

Gloucester, Dec. 9, 1841.

[We fear the only point which can be insisted on, with respect to the practice of surgeons, is, that they should not supply their own medicines.—ED. GAZ.]

A TABLE OF MORTALITY FOR THE METROPOLIS,

Shewing the number of deaths from all causes registered in the week ending Saturday, Dec. 4, 1841.

Small Pox	8
Measles	40
Scarlatina	8
Hooping Cough	62
Croup	9
Thrush	2
Diarrhoea	6
Dysentery	0
Cholera	0
Influenza.....	0
Typhus	23
Erysipelas	6
Syphilis	0
Hydrophobia.....	0
Diseases of the Brain, Nerves, and Senses ..	136
Diseases of the Lungs, and other Organs of Respiration.....	291
Diseases of the Heart and Blood-vessels	17
Diseases of the Stomach, Liver, and other Organs of Digestion	44
Diseases of the Kidneys, &c.....	2
Childbed	8
Ovarian Dropsy	0

Disease of Uterus, &c.	3
Rheumatism	5
Diseases of Joints, &c.	4
Ulcer	1
Fistula	0
Diseases of Skin, &c.	1
Diseases of Uncertain Seat	99
Old Age or Natural Decay.....	51
Deaths by Violence, Privation, or Intemperance	22
Causes not specified	4

Deaths from all Causes 852

ROYAL COLLEGE OF SURGEONS.

LIST OF GENTLEMEN ADMITTED MEMBERS.

Friday, November 26, 1841.

G. G. W. Maitland.—A. T. Chandler.—D. Scannell.—J. Gorringe.—J. Pilkington.—J. T. Sharp.—J. T. Brady.—S. B. Roberts.—J. Buxton.—E. E. Hooper.—R. W. Read.

Friday, Dec. 10, 1841.

R. Jones.—W. Hepworth.—C. C. Taylor.—J. Oldham.—B. Leake.—F. Boase.—W. Jones.—W. C. Homfray.—C. Daubeny.—B. Swete.—G. W. Lang.—J. Caldwell.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, December 9, 1841.

F. Southam, Peterborough.—J. Woodward, Bolton-le-Moors.

METEOROLOGICAL JOURNAL.

Kept at EDMONTON, Latitude 51° 37' 32" N.
Longitude 0° 3' 51" W. of Greenwich.

December.	THERMOMETER.		BAROMETER.	
Wednesday 8	from 45 to 52		29.43 to 29.34	
Thursday 9	31 45		29.80	29.43
Friday . . 10	46 53		29.22	29.44
Saturday . 11	35 42		29.69	29.83
Sunday . . 12	36 50		29.38	29.47
Monday . . 13	47 51		29.32	29.22
Tuesday . 14	36 41		29.38	29.89

Prevailing Wind, S.W.

On the 8th, afternoon and evening clear, otherwise overcast, with rain. The 9th, morning clear, otherwise cloudy; rain in the evening. The 10th, evening clear, otherwise cloudy; frequent and heavy showers of rain during the day. The 11th, clear. The 12th, a general overcast, small rain fell nearly all the day. The 13th, evening clear, otherwise cloudy, raining frequently during the afternoon; a very heavy shower of hail about a quarter past four P.M. The 14th, morning cloudy, with heavy rain, afternoon and evening clear.

Rain fallen, .66 of an inch.

CHARLES HENRY ADAMS.

ERRATA.—Page 142, col. 2, lines 46-7, for “an opening is formed for it in the albumen,” read “in it for the albumen;” and line 50, for “vitellus penetrates the albumen,” read “albumen penetrates the vitellus.” Page 420, col. 2, line 11, for “distension,” read “extension;” p. 421, col. 1, line 16, dele the word “muscles;” line 29, for “England,” read “Eagland;” col. 2, for “Gray,” read “Gay.”

WILSON & OGILVY, 57, Skinner Street, London.

THE LONDON MEDICAL GAZETTE,

BEING A
WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

FRIDAY, DECEMBER 24, 1841.

LECTURES
ON THE
PRINCIPLES AND PRACTICE OF
PHYSIC,

Delivered at King's College, London,

BY DR. WATSON.

*Melanosis of the Lung: true, and spurious.
Accidental intrusion of solid substances
into the air-passages.*

I YESTERDAY adverted to certain callings which are unhealthful for various reasons, and among the rest for this;—that the work-people engaged in them breathe habitually an atmosphere loaded with particles of matter which clog or irritate the pulmonary tissues. There is one morbid condition, so produced, which hitherto, or till lately, has scarcely been mentioned by writers on disease, but which deserves a moment's attention; for although it is very uncommon in many parts of this country, it is by no means rare in some others. The texture of the lungs is spoiled by matters carried in with the air, in the acts of breathing. This morbid state has been called *spurious melanosis*. The lungs are found after death to be throughout of a black colour, more or less uniform. Sometimes the pulmonary substance is dry and friable, as well as black; sometimes moist, œdematous, infiltrated with an inky fluid; not unfrequently broken down into irregular cavities of various sizes; and these cavities are often full of the same black liquor.

You are not to confound these appearances, when you happen to meet with them—(and as you will probably scatter yourselves, some here and some there, over various parts of the kingdom, some of you are very likely to meet with them)—you must avoid, I say, mistaking these black appearances and products, for *true melanosis*. The disease so

denominated is a singular one. It was first fully described and named by Laennec in 1806. It consists in a morbid secretion, presenting a black or deep brown colour of various degrees of intensity, moist generally, unorganized, and differing in the form it assumes, and in its consistence, according to circumstances. I shall take this opportunity, for I am not likely to have a better, to tell you the little that has been ascertained in regard to this kind of disease; and having done so, I shall revert to a short account of *spurious melanosis*.

These black deposits take place most frequently of all in the cellular tissue, and in the adipous tissue: and they occur in greater abundance, and in larger masses, according as the reticular tissue is more plentiful, and more lax. They are met with also in the compound organs of the body; especially in the liver. Less frequently in the lungs. Sometimes in the eye. Occasionally in the brain. The serous membranes are obnoxious to the same kind of disease; the mucous very little so. The black or dark coloured matter may also exist, in a liquid condition, in the natural cavities of the body. And lastly, the melanotic material is sometimes mixed up with scirrhus and brain-like malignant tumors.

With respect to the shapes in which it appears—it is sometimes dotted, the surfaces affected by it looking as if they had been thickly sprinkled over with coal-dust or soot. But more commonly melanosis assumes the form of solid tumors, of variable magnitude. These tumors are largest, where cellular tissue is most loose and abundant. They may be no bigger than a pin's head, or they may be as large as a man's head. Masses of this kind have been found in the horse, weighing as much as six-and-thirty pounds. In the human subject they may attain the size of an orange. These large tumors (like large pulmonary tubercles) are usually formed by the union and agglomeration of smaller ones.

meration of several smaller ones, and hence they have generally a lobulated surface: while the shape of the separate smaller tumors is mostly spherical. Sometimes the cellular tissue lying round the melanotic masses is condensed into a kind of cyst: more generally the black matter is in naked contact with the tissue, whatever that may be, in which it is lodged.

From the serous surfaces, especially from the pleura and peritoneum, knobs of a dark colour are seen in some instances to project; in others, the round tumors, as big as a pea, or a cherry, hang from these surfaces by a sort of peduncle. The omentum is a common *habitat* of melanotic tumors.

Occasionally, I say, the black matter is found spread in a continuous layer upon the serous membranes; or is collected in a liquid state in their cavities. But this, compared with the occurrence of solid tumors, is rare.

When this remarkable disease is met with in one tissue or organ of the body, it is met with in others. It is never confined to one part, but pervades several: resembling in this respect also the scrofulous matter which constitutes tubercle.

Scattered notices of these singular and striking changes in the animal frame occur in the works of Morgagni and of Haller; but since the period when Laennec first drew the special attention of the profession to the subject, the black matter has been carefully analyzed by several expert chemists. Without going into any tiresome detail, which you could scarcely remember, as to its exact composition, it is interesting to know that it is very like that of the blood: and no doubt it is deposited from the blood, by a sort of secretion. Very little indeed has been ascertained about its determining cause. Some have supposed that the melanotic matter is analogous to the natural pigments which are found in the animal economy; all of which are known to be rich in carbon. It is a curious fact that the disease has been more often observed in white or grey horses than in others. (I should tell you that the complaint is not at all uncommon in various quadrupeds: examples of it have been noted in the horse, ox, dog, cat, rabbit, rat, and mouse.) It has been conjectured that, in white animals, the colouring matter of the surface, and of the hair, has been diverted, by some morbid process, from its proper locality. But the very same disorder occurs also, though not so often, in dark, or bay, horses and cows: and certain pathologists imagine that in these cases there has been an undue accumulation in the blood of the carbon which is destined to colour different parts. In the one case, you see, they hold that the pigment is misplaced; in the other that it is

excessive. What value these speculations as to the nature and origin of the disease may possess, time alone can determine.

When the tumors are divided, and moist, or when they are rendered moist by admixture with water, they freely impart the colouring matter; staining white paper, and blackening one's fingers, just as Indian ink might do. The disease most frequently happens, when it happens at all, in the decline of life.

The changes to which the melanotic tumors are liable, are very much like the changes which tubercular matter is apt to undergo. In certain situations where the secreted black material is subject to pressure, and is poured out in a soft consistence, the watery parts are sometimes absorbed, and the mass becomes hard and firm. On the other hand, the pressure occasioned by the tumor sometimes provokes inflammation in the tissues surrounding it; and then it is liable to be broken down, exactly in the same way as that in which tubercles soften prior to their expulsion from the lungs.

The injurious effects of these collections of black matter arise from the pressure they occasion; and they may evidently thus cause pain, irritation, ulceration; and according to their situation, number, and extent, they may materially interfere with important functions. And in this manner they do, in fact, at length destroy life.

There are no symptoms that I know of, distinctive of this disease, except the appearance of the black masses upon the surface of the body. Nor can I pretend to point out to you any cure for it, when it is ascertained to exist.

Yet it is right that you should be aware of what pathologists have learned respecting this curious morbid state; although that be little, and not very satisfactory. And I have introduced this brief consideration of melanosis here, somewhat irregularly, perhaps, to enable you to distinguish from it that pulmonary disease to which I referred in the outset of the lecture, and to which I shall now return. This, I say, has been called *spurious melanosis*; and it has doubtless been mistaken for the specific disease of which I have just given you a sketch; for *true melanosis*.

It is, however, a very different affection.

Laennec had conjectured that certain kinds of black discoloration of the lungs were of extraneous origin; were owing to the introduction of black matters from without in the process of respiration: and Mr. Pearson, in this country, had thrown out the same idea. But this was first ascertained to be actually the case in Edinburgh. Dr. J. C. Gregory had a patient who died in the infirmary in that city, and whose lungs exhibited the following appearances:—They

both presented one uniform black carbonaceous colour, which pervaded every part of their substance. The right lung was broken down, in its upper and middle lobes, into irregular cavities; and the walls of these cavities were black; and they contained a considerable quantity of a black liquid like ink. Portions of the pulmonary substance were dense, hepatized, and friable. The rest of this lung was œdematous; and when the serum which rendered it thus œdematous was pressed out, it also was quite black. The left lung was infiltrated, in the same manner, with black serum. No tubercles could be detected. The bronchial glands were not enlarged, but they partook of the same black colour as the substance of the lungs. No other organ of the body presented any trace of this black discoloration.

Dr. Christison, who is known to be a very exact and able chemist, undertook an analysis of the black matter contained in the serum expressed from these lungs. I shall not follow out the details of his researches (you may read them at length in the 109th number of the *Edinburgh Medical and Surgical Journal*), but content myself with stating their result. And I may state it in Dr. Christison's own words. "In the product of this experiment (he says) it is scarcely possible not to recognize the ordinary products of the distillation of coal. A gas of the same quality was procured, and likewise a naphthous fluid holding in solution a crystalline principle, analogous to, if not identified with, naphthaline."

Now the man, whose lungs presented the appearances I have described, had, for the last ten or twelve years of his life, been employed in the coal mines at Dalkeith. He had been exposed therefore to the habitual inhalation of coal dust into his lungs in breathing: and taking this circumstance in conjunction with the result of the analysis of the black matter contained in the lungs, and no where else throughout the body, we cannot doubt that the carbonaceous substance so abundant in these organs was introduced from without. In truth we have now a large collection of evidence in proof that it must have been so. In the 21st volume of the *Medico-Chirurgical Transactions*, Dr. William Thompson has recorded the results of extensive enquiries into this subject. Thus he gives ten examples of black sputa going along with pulmonary symptoms during life, and of black infiltration of the lungs discovered after death; and of the ten persons who were the subjects of these observations, nine had been engaged in working coal mines, and the tenth was a moulder at the Carron iron works. He gives also six cases of black infiltration of the lungs, all occurring in persons ex-

posed to the inhalation of carbonaceous matters (one of them was an engineer, and the others were all colliers); but in these six cases there had been no black expectoration noticed during life.

That such carbonaceous particles, floating in the atmosphere, may be, and must be, and actually are, drawn into the lungs during inspiration, no one who has been long in this smoky town can doubt. Many persons remark that they expectorate during winter, and while in London, a little mass or two of dark grey, dirty mucus, every morning; but when in the country, in the summer, the mucus so spat up is transparent and clean. So I have noticed, and pointed out to some of you, that the *cra-choirs* of the patients in the hospital often bear witness that there has been during the last twelve hours, one of our dense and dirty fogs, which come with an easterly wind, and carry with them a vast quantity of blacks, and soot, and smoke. Immediately after the prevalence of one of those filthy blankets of vapour, we find the contents of each of the little vessels given to the patients whose expectoration is kept for inspection, to be deeply tinged with black. And I had, in the year 1832, a patient whose sputa were remarkably loaded with dark matter. He came into the hospital complaining of cough, and shortness of breath, and a sensation at the lower part of the right side of the chest, as if it were pierced by needles; and he was spitting a considerable quantity of thick mucus, which was almost black. This colour never entirely left the expectoration as long as he remained in the hospital; but it very greatly diminished in proportion as his symptoms were relieved. Now this man was a stoker at one of the gas works. And he attributed his illness, which had come on gradually, to the great alternations of heat and cold to which his occupation exposed him: and the blackness of the sputa he ascribed to the continual inhalation of coal dust. And no doubt he was right.

It may seem strange that if the inhalation of atmospheric air loaded with minute particles of coal or other carbonaceous matter be sufficient to produce this remarkable condition of the lungs, and the characteristic *black spit*, the change, and its nature and cause, should not have been earlier made out; considering the vast number of men who are employed in our mines, and collieries. It appears, however, that a great repugnance has existed, and probably still exists, among the labourers in the coal mines, to allowing their dead to be opened and examined. And it appears also that the peculiar state of the lungs which I have been speaking of is produced in a comparatively small number of those who are so employed. The precise cause, why some are thus af-

fect, and some are not, is yet to be discovered. Dr. Thompson has circulated among medical men residing in the coal districts, a list of queries (which he gives in his paper,) respecting various points of interest in relation to this pulmonary condition: and by degrees we shall no doubt possess more exact information about it. I recommend it as an interesting subject of enquiry to such among you as may have opportunities of prosecuting it. It has been conjectured that the specific change takes place, in a marked degree, only in lungs that were previously unsound. It is a question whether the cavities met with in the pulmonary substance, in the fatal cases, were the result of the spurious melanosis; or of the expulsion of tubercular matter which had coexisted with the melanotic state. It is a curious circumstance that the black spit, as it is called in those districts, sometimes does not make its appearance until some time has elapsed after the labour in the coal mines has been given up. Certainly this is a complaint that offers several interesting points of research, and requires farther investigation.

You will remark that the spurious melanosis is distinguished from the true, by its occurrence in those persons only who are somehow exposed for a certain length of time to breathe an atmosphere which is largely encumbered with carbonaceous particles; whereas true melanosis may occur in any locality. The spurious discoloration never affects any other organs than the lungs and bronchial glands; the true black deposit of melanosis is never confined to a single organ or tissue. Moreover, the one disorder is absolutely beyond remedy; the other, as soon as its presence is rendered probable, by the black expectoration, and pulmonary distress, may be mitigated, checked, perhaps gradually cured, by removing the patient from the operation of the exciting cause, and pursuing such other measures as the symptoms may seem to require. The distinction is not a matter therefore of mere curiosity: it bears upon the treatment to be followed, which is our proper business. It is connected also with medical police or hygiene, which we should all of us cultivate as extensively as we may; as a science intimately related to our strictly professional pursuits, and to the welfare of the community.

Other forms of cancer occasionally infest the lungs. Their chief symptoms, when the disease does not reach the surface of the body, result from the pressure which the cancerous masses exercise on the parts in their neighbourhood. I shall postpone a more particular consideration of these effects of intra-thoracic pressure, until I come to

aneurismal tumors, which have a similar mechanical influence.

There is yet another affection of the breathing-machine, to which I must briefly direct your attention: a casualty that is apt to befall the air-tubes. I said nothing of this, indeed, last year; but having since witnessed an example of the accident to which I allude—the entrance, namely, of some solid substance into the windpipe—I have thus been reminded of my former omission, and taught at the same time the necessity that every medical man should have well considered such cases. I was taken to Kentish Town, in the autumn (1837), by a professional friend, to see a child, into whose trachea a small nail, what is commonly called a *tack*, was thought to have passed. When I saw the boy, he seemed to have nothing the matter with him: but he had been subject, ever since the accident, to paroxysms of most violent choking cough; alarming the parents and his attendants for his life. There was good reason for concluding that the nail, which was missing, and which he said he had *swallowed*, had really got into the windpipe, and was still there, or in the lungs; and the question was much discussed, what ought to be done in such a case? The result was, that nothing was done: but that, after the lapse of several weeks, the nail was at length coughed up.

Now there are some interesting points arising out of this sort of mischance. The instance I have just referred to will probably be published; and therefore I dwell upon it the less. Dr. Stokes has devoted a short chapter to the consideration of foreign bodies in the air-passages: and examples of that accident are more common than you might suppose.

It is, at first sight, a surprising circumstance, that a solid body, of any considerable magnitude (a molar tooth for instance), should be able to pass at all through the narrow chink of the glottis. But, supposing the chink to be plugged by the sudden entrance of a passing substance, just at the commencement of a forcible endeavour to inspire, when, of course, the opening is at the widest, that substance must necessarily sustain, as the chest expands, a strong degree of pressure from the external atmosphere: strong enough, often, to force it through. If you cork a bottle that contains air only, and sink it sufficiently deep in the sea, the pressure of the water will push the cork into the bottle. The condition of the lungs, in the case supposed, and the condition of the bottle, are analogous. A vacuum beyond the plug is attempted by the act of inspiring, and obviated by the displacement of the plug, inwards. There are no such powerful forces called into ac-

tion to drive the intruding substance out again.

The matters which have been actually thus caught in the rima glottidis, and forced through, are, as you might almost expect, oddly various in kind. Morsels of food: the stones of fruit; of these there are many instances: teeth; three such are referred to by Dr. Stokes: portions of bone: pebbles: a piece of money: a nut: a nut-shell: a button: a musket ball: a large shot: a fragment of nutmeg: iron nails: kidney beans: ears of grass or corn; of these, four examples at least have been noticed; one is mentioned by Dr. Stokes, two are recorded in the *Gazette Médicale*, and I shew you a monument of the fourth, in this interesting preparation, for the history of which I am indebted to Mr. Mayo. The young son of an English nobleman was riding in a carriage, in or near Paris, and had an ear of rye in his mouth. The carriage made a sudden jolt, and the ear of corn disappeared. Little was thought about this at the time: but soon afterwards symptoms of pulmonary irritation set in, attended with hectic fever, and with the most foetid expectoration. The boy gradually sank. The ear of rye lay, as you may perceive, in an abscess which was common to the right lung and to the liver, through the diaphragm.

If any of you have tried the boyish trick of slipping beneath your wristband an ear of bearded corn, you will have no difficulty in understanding how and why, with every movement of the parts in contact with it, the ear will travel onwards; and how improbable it is that such a substance should ever be expelled from the lungs by coughing. Yet, in one of the cases, recorded in the *Gazette Médicale*, by a physician whose sister was the subject of the accident, an ear of barley was so rejected, seven years after its entrance. During that long period she had suffered repeated attacks of copious hæmoptysis. Her recovery was perfect.

The very enumeration which I have just made may convince you that the accident is not a very unfrequent one; and it is more than probable that fatal cases happen, the nature of which escapes detection.

The results of the accident are various also.

In the first place, it sometimes causes speedy death by apnœa.

2dly. It may be followed by inflammation of the lung, and perhaps abscess; and so destroy life.

3dly. Death may ensue, after symptoms resembling those of chronic phthisis.

4thly. The "foreign body," as we oddly enough call it, may be expelled through the glottis, after a variable period of time. Sometimes, yet not always, its expulsion is the condition and the harbinger of the

patient's recovery: but he is never safe while it remains.

Death may take place in a few seconds when the substance sticks in the glottis. Death *has* occurred within three days, when the substance has passed the glottis; and in eleven days when it had reached the lung. The intruding piece of matter has escaped, through the natural passages, after remaining imprisoned for 17 years. In that case, the patient died, hectic and emaciated, a year and a half afterwards.

It may be worth our while to consider these particulars somewhat more closely; and to enquire what, in different cases, becomes of the foreign body which thus, to use a common phrase, "goes the wrong way;" and what the symptoms are to which it gives rise.

First, then, I say, it may get wedged in the slit of the glottis, and produce immediate suffocation. I mentioned, before, the frequency of this kind of death by misadventure. If you are summoned to any one whom you find comatose, or apparently just dead, and you learn that he had been suddenly attacked with choking during a meal, lose no time in examining his pharynx and gullet. You may chance to save a life so. The accident often happens to persons who are drunk. No doubt it happens oftener than we are aware of. The attack is very likely to be mistaken for an apoplectic seizure.

2dly, The substance, if small, may, after it has passed the chink, remain in the larynx; entangled in its ventricles, or between the chordæ vocales. In that case it usually occasions very severe laryngeal symptoms—spasmodic gasping cough, choking sensations, croupy respiration, and pain in the larynx—symptoms which harass the patient without intermission, until death ensues, or until the substance is driven upwards into the pharynx, or passes downwards into the windpipe. There is, however, one instance on record, in which a piece of gold was lodged for years in the ventricles of the larynx, without these distressing consequences.

3dly. Having passed the upper part of the larynx, it may stop, and become fixed beneath the cricoid cartilage, or in the trachea. In these situations, unless it quite blocks up the passage, its presence may be productive of but little distress. A wheezing or croupy sound during one or both of the movements of respiration, and some degree of pain and tenderness of the part where the substance was lodged, have constituted all the evidence of its position in the air-passages, in more than one instance. A very singular and whimsical case of this kind, related by Professor Macnamara, is referred to by Dr. Stokes. A boy had made

a whistle, by perforating a plum stone, and extracting the kernel. This, during a strong inspiration, passed from between his lips, through the glottis, and became fixed transversely in the larynx. So little inconvenience did it create, that the boy, finding that he still whistled as he breathed, went about for some hours, pleased to display this new accomplishment. For three days he continued to occupy himself in his childish amusements, suffering now and then a seizure of suffocating cough. He was then taken to the Meath hospital. He had no pain in deglutition; but he said that when the cough was severe, it caused pain in his throat. He had also uneasiness in the epigastrium, a bloated countenance, and a frequent pulse. The chest sounded well on percussion, and the vesicular murmur was natural. The fits of coughing were followed by white frothy expectoration. Laryngotomy was performed: but during the struggle and the convulsive cough which took place when the opening was made, the stone (so the patient declared) was coughed up, and swallowed. The symptoms were relieved; and the whistling ceased. But it was found that, as the wound healed, the distress and the whistling sound returned; which showed that the stone lay above the opening; and that the disappearance of the symptoms had been owing, not to its dislodgment, but to the admission of air below the point where it was fixed. Soon after this, however, it changed its place, passed down into the right bronchus, and then up again towards the larynx. By a second operation it was extracted; and the patient recovered without any bad symptom.

4thly. The substance may get beyond the trachea, into one of the bronchi, and stay there. And it is a very curious fact, and one which has evident importance in respect to diagnosis, that it is almost always the *right* bronchus which the substance enters. Dr. Stokes has explained why it is so. The septum that divides the extremity of the trachea into two branches is not placed in the middle of the channel, but decidedly towards the left; so that any solid body falling down through the windpipe, is naturally directed into the right bronchus. Perhaps this tendency is aided by the more vertical direction, and by the somewhat greater capacity of that tube compared with its fellow. Now you will readily apprehend what sort of symptoms would be likely to result from the impaction of a solid body in either of the primary bronchi. It would be very apt to excite inflammation of the corresponding lung, which inflammation would reveal itself by its proper signs; but it would produce peculiar auscultatory phenomena, prior to and independent of such in-

flammation. It would prevent, partially or altogether, the entrance of air into the lung of that side. Hence, when we have other reasons for thinking that a solid body has passed the glottis, if we find the vesicular murmur suspended or enfeebled in one lung, while percussion gives out its usual clear sound, we may conclude that the intruder is lodged in the bronchus belonging to that lung.

Dr. Stokes believes, and his opinion is fortified by his own experience on the subject, that smooth bodies (beans or shots, for example), are more calculated than such as are rugged and uneven to cause urgent distress when impacted in one of the bronchi; inasmuch as they more completely plug and obstruct the tube, thereby depriving the patient at once of the use of half his lungs. An irregular substance, which can neither seal the passage up, nor be closely grasped by its spasmodic contraction, will probably occasion less dyspnoea, and at the same time will be less likely to be dislodged by the effort of expiration. Under these circumstances we look for more chronic symptoms.

5thly, and lastly. The intruding substance may not be fixed any where, but may shift its place from time to time; and this, in fact, is what most frequently happens: and when it does happen, it gives rise to a very striking and distinctive series of symptoms. Paroxysms of suffocating cough and extreme distress, when the substance is driven up into or near the larynx; with intervals of comparative quiet, and sometimes indeed of apparent health, when it subsides into the trachea or bronchi. But during these intervals, the signs that sometimes mark its situation in those tubes may perhaps be discoverable.

There are, then, a set of general symptoms, which lead us to believe, or to suspect, that some solid body has entered the air passages: and there other sets of particular symptoms, which inform us, with more or less certainty, whereabouts it is fixed, or that it is not fixed at all. A person, previously in good health, is seized with violent cough and choking dyspnoea, suddenly, during a meal, or while he had in his mouth some loose substance, which he fancies he has swallowed. This is a sufficient clue to the probable nature of the case: and we next inquire for a sense of soreness in the windpipe, and wheezing respiration; for signs of bronchitis or of pneumonia, especially in the right lung: for signs of obstruction of the bronchus on one side, and especially on the right side; or for alternations of suffocating cough, with intervals of outward calm. In the last case, we may expect to find the bronchus unstopped during the periods of laryngeal irritation; and *vice versa*.

When we know that a solid body has been entrapped in the air-tubes, our business is plain; there is no room, in my opinion, for hesitation; we must let the substance out through an artificial wicket. There is danger, so long as it remains in these vital passages, of speedy suffocation; of fatal damage to the larynx, or to the lungs; of cerebral mischief during the violent paroxysms of coughing. Convulsions and apoplexy have, under such circumstances, actually occurred. Against these perils there is no security, except in the early performance of tracheotomy. If the included substance be loose, it will presently be shot forth at the new orifice; if it be fixed, it may generally be extricated by a skilful and delicate hand.

ON

POISONED WOUNDS.

BY HERBERT MAYO, ESQ. F.R.S.

(For the Medical Gazette.)

II. OF THE BITES OF VENOMOUS SERPENTS.

It is well known that the poison of venomous serpents is secreted by a gland situated at the root of the poison-teeth, through a canal in which it finds issue. The poison-teeth situated in the front of the upper jaw are habitually thrown upwards and backwards (an arrangement which their shape assists), and lie so raised till the animal prepares to strike its prey.

The only venomous serpent in these islands, or in the north and west of Europe, is the adder, or viper. Of the venomous serpents of other climates those best known to us are the rattlesnake of North America, and the hooded snake of the East Indies.

There is reason to believe that the poison of all venomous serpents is much the same in kind, that of the rattlesnake differing from the poison of the viper in degree of virulence only. So the effects produced upon small animals by the bite of the viper, resemble those produced in man by the bite of the rattlesnake. In both cases the result is commonly fatal. And although the bite of the viper is scarcely ever directly fatal in the human species, yet it produces symptoms similar to those that follow the bites of the more venomous kinds.

The symptoms following the bites of venomous serpents, like those produced by the most virulent poison of decomposition, are of two classes—a general impression upon the system, and certain local effects.

The general symptoms are, muscular debility, anxiety, incoherence, torpor; feebleness of the heart's action, coldness, oppres-

sion of breathing; vomiting of the contents of the stomach; then bilious vomiting, bilious purging, and involuntary action of the bowels. The local symptoms are, pain extending towards the trunk, oozing of sanies from the wound, swelling of the bitten limb, with or without ecchymosis and discoloration; infiltration of the cellular membrane in the pectoral region, and elsewhere upon the trunk; partial mortification, sloughing and abscess of the cellular tissue.

The four following cases exemplify the effects, the two first of the bites of vipers, the two last of the rattlesnake. (The three first are from Magendie's *Journal of Experimental Physiology*.)

“A man, aged 26, of short stature, and weakly constitution, was bit by a viper on the inner ankle. Immediately he felt as if something moved upwards along his thigh; he became heavy and drowsy, and was scarcely able to make the ten paces necessary to carry him out of the wood into a field. His strength then entirely failed him; he was sick, and vomited, first alimentary matter, then bile—the last repeatedly; violent pain in the belly, with bilious purging, followed: in this state he lay three hours. In another hour he was seen by M. Gaspard, who found him in a state of extreme weakness, unable to move a limb, having barely strength to speak; his pulse a thread scarcely perceptible, with great thirst, and extreme soreness of the hypochondria. The bitten part was not swelled, and presented only two slight ecchymoses. The patient swallowed some ammonia in water, and brandy and water, and gradually rallied. The next day he was almost well, having nearly regained his strength: there was trifling swelling of the ankle, which soon disappeared.”

“A robust woman, labouring under ague, was bitten nearly in the same part: she tied a ligature round the leg and hastened home. The leg swelled, and in a quarter of an hour she was obliged to stop from extreme weakness; she vomited first alimentary matter, then bile, and after some griping had copious bilious evacuations. Being carried home, the ague which was due made its appearance, and went through its stages without the least modification. But the limb became more painful and swollen, like a phlegmonous erysipelas, with an ecchymosis round the bite. When the customary febrile paroxysm was over, the general symptoms from the bite did not return; and the swollen limb, in a few days, got well. What is singular, the ague was cured.”

Dr. Pihorel (*Tom. vii., p. 92*), has described the effects of the bite of a rattlesnake on an Englishman of the name of Drake. He was bitten at half-past 11 in the forenoon, and died soon after 8 the

same evening. There were two bites, both on the left hand. Upon being bitten, he washed the wounds with iced water, and tied a ligature tight round the wrist. Within twenty minutes from the infliction of the wounds Dr. Pihorel cauterized them; the ligature, which had become painful, was then removed from the arm. In from five to eight minutes after the cauterization, Drake was seized with paleness, tried to sit down, fell powerless, his breathing was stertorous, and there was involuntary passage of the urine and fæces. He was carried to his room; pulse scarcely perceptible; eyelids closed; pupils contracted. Placed in bed, his pulse could be felt beating 50; the extremities cold. In half an hour after complained of cold, and vomited; the vomiting repeated in half an hour; the matter thrown up of a yellowish-green colour, and foetid. In the afternoon, temporary improvement; the pulse then rose to 100; the breathing more laboured; pains of the wounded hand and of the left shoulder; difficulty of swallowing; anxiety, and desire expressed to be bled; twelve leeches were applied to the neck with slight relief; the oppression and anxiety increased up to the moment of his death. He preserved to the last his intellect firm and undisturbed. The only tumefaction had been slight swelling around the wounds, and latterly of the upper lip.

The body was carefully examined, but displayed nothing unusual, except slight increase of vascularity of the brain; increased vascularity, amounting at one part to inflammation, of the bronchial mucous membrane; and a quantity of brown frothy mucus in the trachea and its branches. The right auricle and the veins leading from it to a great distance were greatly distended, and contained a tough strong clot of blood.

The case of Thomas Soper, a showman in London, who was bitten by a rattlesnake on the 17th Oct., 1809, and treated by Sir E. Home, is in the *Philosophical Transactions*. He is described as of a spare habit; his age 26. The wounds were one on the back part of the first phalanx of the thumb, the other on the side of the fore finger. He went directly to a chemist's, who, seeing that there was no swelling of the hand, and that his language and behaviour were incoherent, supposed him to be intoxicated. The accident happened at half-past 2 P.M. By 3 the hand and half the forearm were swelled; at 4, the elbow; at half-past 4, the swelling extended half way up the arm; at this time his answers were still incoherent; the skin cold; pulse 100; he felt sick; took some ammonia and sulphuric æther in camphor mixture, and vomited; at 5, took another similar dose, and retained it. At 6, the pulse

was stronger; at 9, the bowels having twice acted, he was cold; the pulse weak. At 10, the pain in the arm violent; pulse stronger, but fits of faintness supervened every quarter of an hour; in the intervals seemed less depressed; the stimulants taken hourly. At 8 the next morning the swelling had not extended beyond the shoulder, but there was a fulness down the side, and blood was extravasated under the skin as low as the loins, giving the back, on the right side, a mottled appearance. The whole arm and hand was cold, but painful when pressed; the skin tense. On the inside of the arm, below the axilla, vesicles had formed, under each of which was a red spot of skin as large as a crown. He was low and depressed, with tremulous motions of the lips, and faintings recurring as the preceding evening; but the skin of the body was warm. He survived till the 4th of November, struggling unsuccessfully against the debility produced by the original impression on his constitution, and the local mischiefs which followed, which were, extensive sloughing and suppuration of the cellular membrane and integuments of the arm and axilla.

The effects of the bite of the coluber carinatus, witnessed in several instances by Mr. Ireland, at St. Lucia, closely correspond with those of the poison of the rattlesnake. Of one patient Mr. Ireland says, "I first saw him ten minutes after he had received the wound, and found him in a torpid senseless state: the hand, arm, and breast of the same side were much swelled, mottled, and of a dark purple and livid colour; he was vomiting, and appeared as if much intoxicated." Of another, a black soldier, Mr. Ireland says, "I saw him within a few minutes after he was bitten, and vomiting; senselessness, and torpor, had commenced."—*Med.-Chir. Trans.*, vol. ii. p. 396.

The theory of the treatment of persons bitten by venomous serpents, if we may rely upon the testimony we have before us, and it has not been questioned, is now perfect. It only happens, unluckily, that such wounds are ordinarily incurred at a distance from medical advice.

In the first place, it is analogically certain, from the experiments of Sir David Barry upon dogs, rabbits, and pigeons, intentionally exposed to be bitten by vipers, that the prompt application of a cupping-glass over the wound will entirely remove the poison. The textures around the wound, which have imbibed the poison, may have it thus washed out of them by their own juices that are forcibly sucked through them and out of the system by the cupping-glass.

But the part bitten may be one to which a cupping-glass cannot be applied, the edge of the hand, for instance: in that case there

is little doubt that strong suction with the lips and teeth might effectuate much of the same purpose.

Again, if a finger be the part bitten, either its instant removal at the joint below, or, as a temporary means, a string drawn round it so tightly as to strangulate it, and stop the circulation.

Nor are these means to be neglected because the poison is already beginning to work its effects. The effects continue seemingly to be heightened through the diffusion of more virus from the wound, to which, therefore, the local treatment above recommended is still applicable.

The great desideratum, of course, is a means of strengthening the constitution to bear up against the deleterious agency of the virus—an antidote to the poison. Such an antidote appears to have been discovered by Mr. Ireland, who published, in the *Medico-Chirurgical Transactions*, an account of its success in four cases of the bite of the coluber carinatus. It consists in the exhibition of large doses of arsenic.

Mr. Ireland mentions, that when he went to St. Lucia, he was informed that an officer and several men belonging to the 68th regiment, to which he was attached, had died within a few months from the bites of these destructive animals; that every expedient known had been tried by the medical men, but to no purpose, as all the persons bitten had died, some in six, and others in about twelve hours. This led him to recollect and to avail himself of a suggestion of the late Mr. Chevalier, founded on the reputed efficacy of the Tanjore pill, which is understood to contain arsenic. A trial of this remedy was accordingly made on the first person bitten after his arrival—the same whose symptoms are given above. The arsenic was administered in the form of Fowler's solution, two drachms of which were mixed with ten drops of laudanum, in peppermint water, half an ounce of lime-juice being added, to form a dose that was taken every half hour. The patient took eight doses. In the meantime the swollen hand and arm, and breast of the wounded side, were frequently fomented with common fomentations, and rubbed with a liniment composed of ol. terebinth, ʒss.; liq. ammon, ʒss.; olei oliv. ʒiiss. The cathartic clyster was repeated twice, when the patient began to be purged: the arsenical medicine was now discontinued. He had become more sensible when touched; and from this time he gradually recovered his faculties: he took some nourishment, and had several hours sleep. The next day he appeared very weak and fatigued. The fomentations and liniment were repeated. The swelling diminished gradually; the natural colour and feeling returned; and by proper dressings to the

wound, and attention to the state of his bowels, he soon recovered and returned to his duty. In the second case described by Mr. Ireland, eight two-drachm doses of Fowler's solution were likewise given. In the third and fourth, six only. Mr. Ireland mentions a fifth case that occurred subsequently in Martinique, where the bite was that of a different species of serpent, but reputed to be equally deadly. This case recovered by the same means; and it does not appear that the remedy was tried, under Mr. Ireland's observation, with a single failure.

The appropriate treatment of the second period, or that in which the patient has survived the immediate impression of the poison on his constitution, and has to contend with gangrene, and extensive suppurations and the debility consequent thereon, may be supposed to differ from that necessary in cases where the same local affections are in progress from other causes in this only, that the debility, being from a specific cause, may be specially benefitted by the continuance of the antidote in reduced doses.

For the bite of the viper in this country, ammonia internally, and sweet-oil and ammonia to the wound, are the prescriptive remedies, which the methods recommended by Sir David Barry and Mr. Ireland should now supersede. It is surprising that no one seems to have adopted Mr. Ireland's practice, or to have tried it experimentally in animals.

ON

UTERINE HÆMORRHAGE AFTER THE BIRTH OF THE CHILD*.

BY JAMES BORRETT, M.D.

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[*For the London Medical Gazette.*]

HÆMORRHAGE after the birth of the child occurs, when the placenta, which is partially detached, is retained through insufficient or irregular contraction of the uterus, or is morbidly adherent. It is likewise caused by atony of the uterus after the separation and expulsion of the placenta.

In women of a phlegmatic temperament and relaxed fibre, with great obesity and sluggish muscular contractility, an inactive state of the uterus

* My object in writing this paper on a subject so often discussed is to verify by cases, which have come under my own observation, the treatment recommended by the best practical writers, principally with the view of shewing the necessity of introducing the hand in cases of uterine hæmorrhage after the birth.

is often met with, unfavourable to a healthy completion of labour, especially in constitutions impaired by frequent child-bearing. In some particular cases the general condition of the system seems of itself to give rise to this accident, the cause being, according to Dr. Gooch, an excited state of circulation, the uterus at the same time contracting in a manner which commonly precludes hæmorrhage.

Hæmorrhage after the birth is usually marked by external discharge, steadily increasing, or it commences suddenly with a gush. Cases of internal or concealed hæmorrhage, in which the blood accumulates within the uterus, are evidenced by the soft and distended uterus, feeble pulse, pale face, ringing in the ears, dimness of sight, and other constitutional symptoms of approaching syncope. From ignorance of this kind of hæmorrhage many fatal cases have occurred.

The peculiar form of hæmorrhage described by Dr. Gooch, and more recently by Professor Michaelis of Kiel, has not come under my observation. I imagine it would occur from the use of stimulating diet, inducing plethora, with a full and hurried circulation; or from vascular excitement, caused by the use of alcoholic stimulants, so common in the metropolis and large cities. I can also conceive it to depend upon hypertrophy, with increased size and power, of the heart, an opinion which derives weight from its recurring in subsequent labours, as well as from the effect of the treatment employed to prevent its occurrence.

Uterine contraction in hæmorrhage after delivery may be described as of three kinds—the globular, oblong, and hour-glass. The existence of the last of these forms has been doubted by some, who have imagined that a contraction of the upper part of the cervix uteri, or os internum, has been confounded with that of the circular fibres of the body of the uterus. My own experience, however, confirms the accuracy of practical writers, who describe the hour-glass form. In this the circular fibres contract above the cervix uteri nearer its fundus, the upper cavity forming but an inconsiderable portion of that organ. I have also met with contraction of the os internum, where the larger cavity is above, and made up of the body and fundus uteri: this

form of contraction also may be correctly denominated hour-glass.

The author of a paper on “post-placental hæmorrhage” (in the *MEDICAL GAZETTE* of the 10th Nov. 1838)*, advises a bold exhibition of alcoholic stimulus, to counteract the influence of fear upon the woman. I do not, however, concur in the notion of alcoholic stimulus being mainly of use in obviating mental terror. I can imagine fear to operate in the case of a woman, who in a former labour had flooded dangerously; and the mischievous effects of any despondency or apprehension in the patient, and the advantage of an encouraging, cheerful, and collected demeanor on the part of the accoucheur are well known. But, I would ask, is it not the common remark of the lecture-room, confirmed by the experience of every day’s practice, that the apprehension of the woman ends, where that of the accoucheur begins? “Patients,” says Dr. Gooch, “estimate their dangers only by their sufferings: hence, as soon as the child is born their anxiety ceases.” Commonly the uterus† is not paralysed by fear, but only, tired and exhausted, needs recruited power till the danger is past. Admitting, however, the possibility of fear as an occasional cause of flooding, I apprehend that the action of the alcoholic stimulus is to be explained rather by its effect upon the cerebral and true spinal divisions of the nervous system, in relieving fatigue and rousing muscular energy, than by its action on the “cerebrum in obviating mental terror and inducing sleep.” There is nothing new in the suggestion of the use of the alcoholic stimulus, only in the author’s idea of its *modus operandi*: and the theory itself is of little moment, although the practical inference likely to follow from it is of great importance. For if the author carry his views of employing alcoholic stimulus to the exclusion of the introduction of the hand, and even a disregard of compression, his treatment is open to strong objections. The freedom of brute animals from uterine hæmorrhage, which

* “On Post-placental Hæmorrhage,” by R. Hull, M.R.C.S.

† I do not see that the case of the paraplegic girl at Cossey, related by the author, is any proof “that the ganglionic” and (true spinal) “energy of the uterus” alone accomplished delivery. The diaphragm and abdominal muscles doubtless co-operated, as in ordinary labour, with the uterine contraction.

the author, to suit his fanciful theory, has attributed to the absence of the "moral influence of fear," is in truth to be explained by the difference in the structure and mode of attachment of the placenta.

The primary object of the accoucheur is to prevent hæmorrhage, by promoting and maintaining sufficient contraction of the uterus. When hæmorrhage occurs, it is important to consider how far the particular state of the uterus gives rise to the flooding, or whether it is caused and continued by a general condition of the system unfavourable to vigorous uterine action. The peculiar form described by Dr. Gooch is to be prevented by constitutional treatment, consisting in depletion and regimen, for some weeks previous to labour, in order to bring about a tranquil state of circulation. Healthy action of the uterus after the birth of the child mainly depends upon the management of the labour: accordingly we find that flooding rarely occurs in the practice of the skilful accoucheur; whereas he is often called by midwives to such cases. The application of a bandage or common shawl around the body has been advised, to promote more regular labour-pains; and after the birth to secure an early separation and expulsion of the placenta. During labour, particularly where the abdomen is pendulous, a bandage may be used with great advantage.

Of the infinite variety of methods recommended to promote by compression permanent uterine contraction, Mr. Fenner's bandage appears to me to deserve particular notice. It is well contrived to secure uterine action and expulsion of the placenta, and to prevent subsequent relaxation. A well-adjusted bandage ought always to be applied after the removal of the placenta. Hæmorrhage is frequently prevented by a bandage, and in all cases its support affords great comfort to the woman. It cannot be dispensed with without risk of danger even in the case of the vigorous parturient. I would observe, that the binder in use at the Dublin Lying-in Hospital is both simple and efficient; and the mode of applying it merits the commendation, which the Dublin accoucheurs have claimed for it. Nevertheless, there is not any binder, however ingeniously contrived, or any other means of em-

ploying pressure upon the abdomen, which can, in my opinion, be compared with the accurate and efficient compression of the uterus by the hand. Of this I became convinced by the result of Thurlow's case, which I have detailed hereafter. My own experience leads me to distrust the application of a bandage for the purpose of causing the separation and exclusion of the placenta. I think as little interval of time as possible should be suffered to elapse between the birth of the infant and the removal of the placenta, when all pulsation of the cord has ceased. For example, after the head is born, another pain having expelled the shoulders, another the body, and another the limbs, the abdomen of the woman being disencumbered by any bandage, the uterus, as it contracts, followed by the hand of the accoucheur, throws off the placenta either with the birth-pain, or with scarcely any interval, and often before the cord is tied. As soon as the cord is divided, contraction sufficient to expel the placenta is commonly produced by passing the right hand upon the abdomen, and moderately compressing the fundus uteri. But if a quarter of an hour has passed without this effect taking place, the accoucheur will often succeed in removing the placenta lying at the upper part of the vagina, or at the os uteri, by slipping the left hand along the cord to its root, the detachment being already effected by the compression of the fundus uteri by the right hand. If the placenta however still remain attached toward the fundus, in order to remove it, the left hand is to be carried within the uterus, which at the same time must be supported and compressed by the right.

This practice of promoting an early exclusion of the placenta is not supported by many eminent accoucheurs. Some writers are of opinion, that one, two, or even four hours, especially if there be no flooding, should be suffered to elapse before the accoucheur interferes to remove it. But my experience is opposed to such delay; for by allowing so long an interval of time to intervene, the woman in general becomes uneasy, or even fearful, and the placenta has to be removed from a uterus often irregularly contracted; the obstacle being at the lower part of the cervix or os uteri, or at the upper part

of the cervix or os internum uteri, or at the body of the organ; in all which cases the introduction of the hand becomes almost always necessary under circumstances of considerable difficulty, occasioned only by delay. When the placenta is detained by irregular contraction of the uterus, external compression rarely succeeds in overcoming it. In the case of Mills, which is related hereafter, it failed before the exhibition of the opiate in overcoming the closing of the os uteri, and it is very doubtful, if it would have availed afterwards; and when the placenta is adherent, the introduction of the hand becomes unavoidable. In this uncertainty it is, in my opinion, better practice, at an interval of fifteen or twenty minutes after employing external compression, to pass the hand to the root of the placenta, or within the uterus, if necessary, and so to remove it at once, than to trust to ergot or any other measures. Where the uterine action is merely insufficient, the removal of the placenta is easily effected; and where its retention is complicated with a special condition of the uterus, its removal becomes so much the more necessary.

Of the* remedial means to be employed in uterine hæmorrhage, some act directly upon the uterus, others indirectly through the medium of the system; while† compression of the aorta acts as a tourniquet in staying hæmorrhage from the uterus.

I have at different times had opportunities of trying almost every means deemed most effectual in cases of hæmorrhage after delivery, such as external compression by the binder and hand of the accoucheur; a draught of iced water; napkins dipped in vinegar, and applied to the lower belly, pudendum, and loins; cold applied with a shock, by affusion upon the abdomen, as proposed by Dr. Gooch; cold injections into the uterus, rectum, and umbilical‡ vein; the application of the

infant to the breast; the juice of lemons squeezed within the uterus; a sponge dipped in vinegar, and carried to the utero-placental surface, whence the blood flows; ergot; the compression of the aorta; the introduction of the left hand closed to compress the open vessels, counter-pressure being made at the same time by the open right hand passed upon the abdomen; and a free exhibition of diluted brandy and laudanum.

In women, who have flooded in former labours, the recurrence of that dangerous accident may be often prevented by a timely administration of ergot. In labours attended, according to Dr. Gooch, with a full and rapid circulation, where an ordinary degree of contraction does not preclude hæmorrhage, ergot may perhaps induce a contraction sufficient to resist the force of the circulation; but, under any circumstances, compression of the aorta is a remedy which ought not to be omitted.

No degree of cold, or cold applied with a shock, can be relied on to arrest flooding after delivery. Practitioners have seen their patients die with their bodies covered with snow and ice; and I have found cold affusion upon the belly to fail, where the introduction of the hand, I believe, saved the patient.

The introduction of the left hand within the uterus to remove coagula, to stay by direct pressure the hæmorrhage, and to excite uterine action, which is in all cases most advantageously combined with compression by the right hand passed between the thighs of the patient upon the abdomen, is the most powerful means of inducing uterine contraction and arresting hæmorrhage. No attendant can give a support to the uterus, such as the combined pressure of the hands of the accoucheur effects, and without fail; while, in the worst cases of flooding, a bold use of alcoholic stimulus, by acting on the nervous system, rouses and sustains the exhausted energy of the uterus, and permanently secures its contraction. I would not myself limit the introduction of the hand to those cases only where the placenta is re-

not succeed with me in a first case of premature labour. After the failure of every means, including stimulant injections and ergot, I succeeded, with great difficulty, in removing the placenta by the hand. My attention was first called to the practice of injecting the umbilical vein by Dr. Mojon, when I was at Genoa, who kindly presented me with his monograph on the subject.

* When I think it right to administer an opiate, I have been in the habit of giving it directly after labour, rather than at an interval of an hour after. Its first action being stimulant, its second tranquillizes, and induces repose.

† Compression of the aorta, as a means of arresting hæmorrhage, has been practised by Rudiger, Ploucquet, Saxtorf, Boer, Tréhan, Baudelocque (neveu), Pinel-grandchamp, and others. Velpeau and Boismont de Brière have reported well of it.

‡ The practice of injecting diluted vinegar into the umbilical vein, proposed by Dr. Mojon, did

tained ; for although compression, cold, ergot, and alcoholic stimulus, will often bring about sufficient uterine action in flooding after the exclusion of the placenta, yet the introduction of the hand, in the manner above advised, combined with the use of alcoholic stimulus, affords a more prompt, easy, and certain means of arresting the hæmorrhage, and ought not, in my opinion, ever to be omitted, where it proceeds to an alarming extent. Gooch, Hamilton, Burns, Collins, Dewees, Ingleby, Meriman, and the Ramsbothams, all recommend (and there are no higher authorities) the introduction of the hand. I have known several fatal cases of flooding after the expulsion of the placenta, in which recourse was *not* had to this practice ; on the other hand, I have never known any to terminate fatally where the hand has been introduced, and brandy and laudanum freely given.

There is perhaps much in the practice of midwifery by men which is repugnant to a woman's feelings ; but the Lachapelles and Boivins are few ; and it is to such hands only, among the other sex, that the duties of the accoucheur can be safely committed. The natural infirmities of the body frequently bring the patient under the surgeon's charge, and make her disregard the particular attendance of the accoucheur ; and if it were otherwise, comfort, health, and even life itself, could not be permitted to be sacrificed to the delicate sensibility of the patient, much less to the overstrained sentimentality of the practitioner.

CASE I.—*Placenta retained ; longitudinal contraction of the uterus.*

I was called by a midwife to see S. Wright, first labour, in a case of dangerous flooding, with retained placenta. In her two following confinements I attended. No accident occurred. In her fourth labour I was summoned to her by a different midwife in attendance, half an hour after the birth of the child. The uterus was contracted in a longitudinal form ; its fundus lying in the hypochondrium. After giving forty drops of laudanum in diluted brandy, I passed my left hand within the uterus, having carried my right upon the abdomen to fix and compress the fundus uteri. The introduction of my hand having excited uterine action, I emptied

the coagula, removed the placenta, and followed down, with the right hand, the uterus contracted into a round hard ball above the pubes.

There can be no doubt that flooding was caused in both cases by mismanagement of the midwives, who hurried the birth instead of allowing the shoulders and body of the infant to be expelled by the contractions of the uterus.

CASE II.—*Placenta retained ; globular contraction of the uterus.*

Mrs. W., ætat. thirty-six, tenth labour, April 23, 1840. Seven hours after the birth of the child my assistance was requested, in consequence of alarming flooding, with retained placenta. The body was as large as in a woman in the sixth month of her pregnancy. Her face and lips were pallid : I could not feel a pulse at the wrist. She was unable to speak, but had not lost her consciousness, as she afterwards told me. She swallowed with difficulty forty drops of laudanum in a tea spoonful of brandy. On making pressure on the uterus large coagula passed, but it failed to promote the expulsion of the placenta. At the expiration of half an hour, during which time diluted brandy was given by teaspoonfuls, I passed my left hand within the uterus, while I fixed and compressed the fundus with my right. In about a quarter of an hour I became sensible of feeble uterine action, when I separated and removed the placenta. I remained at the bed-side half an hour, with the uterus in my grasp. My patient by that time swallowed better, and spoke in a whisper. I then, for the first time, felt the pulse. I remained with her three hours, and on leaving directed a mixture of æther, ammonia, and laudanum, to be given every half hour during the next six hours. On rallying she vomited ; a not uncommon and salutary action, as it discharges from the stomach some portion of alcoholic stimulus, which is given during the state of prolonged syncope to assist mainly in sustaining the vital powers. For ten days my patient could only be moved from one side of the bed to the other ; and at the end of three weeks was placed upon a sofa-couch by the bed-side. The symptoms, which commonly succeed profuse loss of blood, were treated by opiates, a sparing use of fluids, cold to the forehead and tem-

ples, and semi-recumbent posture—means which I have always found successful.

CASE III.—*Placenta retained; hour-glass contraction.*

E. Thurlow, a tall, strong woman, residing three miles from Norwich, was delivered of her ninth child in May, 1840, at five P.M. An hour afterwards the placenta had not come away, when the midwife, observing a change in her appearance, sent off for me. I did not arrive till half-past seven. The discharge had been considerable, and the abdomen was as large as in the seventh month of pregnancy. The pulse was thread-like. A coagulum filled the vagina; and on carrying my left hand within the uterus I found a portion of the placenta retained by an hour-glass contraction of the body of the uterus; while the larger portion lay detached, with coagula, filling the inferior division of the organ. I gave forty drops of laudanum, and the contraction, which, faint as my patient had become, was still considerable, in a little time yielded to the steady pressure of the fingers of the left hand, with counter-pressure upon the abdomen by the right. Having in part emptied the coagula, as soon as I became sensible of uterine action I withdrew my hand and the placenta together. I held the uterus for some minutes in the grasp of my right hand, giving diluted brandy at the time as freely as it could be swallowed. I then applied folded napkins, and carefully secured the body with a binder above the fundus uteri. The pulse was small and thready; she spoke in a low whisper.

After a brief interval the pulse became imperceptible at the wrist. Finding the napkin coloured, I applied cold vinegar cloths to the pudendum, removed the binder, and held the uterus firmly in my hand, continuing to give the diluted brandy. The pulse at the wrist returned after a time, and the binder was reapplied. In half an hour the faintness became death-like; restlessness and jactitation came on, with inability to speak or swallow, gasping breathing, a falling of the jaw, and a dulness of eye, such as I never witnessed except as the immediate precursors of dissolution. Having found so good an effect to follow the compression of the uterus by my hand,

I again removed the binder. The poor woman lay at this time on her right side. I compressed with my hands, during one hour, the uterus, when, to my extreme satisfaction, she spoke audibly, said “she felt better,” and the pulse had again returned. All this time the diluted brandy was given, as freely as it could be got down. I again secured the body with the binder. It was now half-past 10 o'clock. For three* hours my hands had not quitted the uterus, except in the short intervals of the application of the bandage. I left her to the care of the midwife, who informed me the next day that the faintness did not go wholly off till 3 o'clock in the morning, a period of eight hours.

Four months after, my patient came with difficulty to see me. I learned that she had suffered much from pains shooting through the head, palpitation of the heart, faintings, and debility.

I did not use the plug, which, on consideration, it seems to me, would have effectually checked any oozing of sanguineous fluid, so important to retain when with it the vital powers are ebbing.

CASE IV.—*Placenta adherent.*

April 24, 1837, I was requested to visit Elizabeth Ellis, on the third day after her confinement with the seventh child. I learned that the placenta had been removed with difficulty, and that there was considerable flooding at the time. She complained afterwards of much pain, and many large coagula came away. When I was called to her, the pulse was jerking, the face flushed, with hot skin, thirst, and throbbing pain of the head, which was bound tightly. On examination I found adherent, towards the fundus uteri, a substance partly placental and partly of a firmer and more fleshy structure, which, from its intimate connexion, I did not succeed in wholly removing. A soft plug was passed up to the os uteri. There was no further loss of blood. On the third day the plug came away. For ten days a very offensive discharge continued, during which time frequent injections of soda

* I find, on reference to Dr. J. Ramsbotham's “Practical Observations in Midwifery,” that he has succeeded in similar cases by compression of the hand, continued during three and even four hours.

chlorin. were employed; pills with opii and plumbi acet.; and afterwards a mixture with alum and acid. sulph. dil. and tinct. opii, to which sulph. quinæ was added.

May 6th.—Scarcely any discharge. My patient sits up in bed.

27th.—Found her sitting in a chair by the fire-side. She complained of great weakness. She neglected to send for me at the time of her next labour; and I did not see her till my attendance was requested by the same midwife, on the eighth day of her confinement.

Jan. 9th, 1839.—The labour was lingering; the child still-born. I found her with a bleached face, small quick pulse, and great thirst: she had frequent sensation of faintness, succeeded by throbbing in the head. On inquiry her mother assured me that her daughter's loss had been only proper, and the midwife did not tell me, what was really the truth, that the loss had been very great, coming away in coagula up to that time. On compressing the uterus a coagulum was expelled. This the poor woman denied at the time, from a fear, as I afterwards learned, lest I should make an examination. I was about to remove the substance, which I had no doubt was left in the uterus, and to plug the vagina, but she begged me to wait till the next visit; and, on my urging the great danger of delay, positively refused. I ordered pil. plumbi acet. c. opio every four hours, with a draught of acetum destillat. in camphor mixture, and the application of cold vinegar cloths.

Jan. 10.—The discharge continued; pulse was more feeble. After a long and obstinate resistance she consented to an examination, which I thought it right to make, as affording her the only chance of recovery. The os uteri was patulous; within the upper part of its cavity was adherent a substance of the size and thickness of the palm of my hand, composed of two distinct structures: one placental; the other firm, of cellulo-fibrous texture, vascular, traversed by an artery as large as a crow-quill, with other vessels of a racemiform arrangement. I passed a soft handkerchief up to the os uteri, and directed cordials and meat-broth to be freely administered. She died three hours afterwards.

Had this unfortunate woman allowed me, on the first visit, to remove the

growth, and to prevent by the plug further loss, still I am of opinion she would not have recovered, from my experience of the dangerous symptoms which followed the removal of the growth on the *third* day after her former labour. On the other hand, had I attended at her labour, instead of the midwife (whose ignorance and neglect were unpardonable after what she had before witnessed), I feel that the patient's life might in all probability have been preserved*.

CASE V.—*Placenta retained; contraction at the os uteri.*

Maria Clarke, ætat. 24; first labour. The midwife summoned me an hour after the birth of the child, on account of flooding. The placenta had not come away; the pulse was small and weak, the uterus of a globular form. By friction and compression, and flapping cold wet cloths on the body, several large coagula were expelled; still the placenta was not expelled. On examining I found a contraction of the os uteri, which I succeeded, after some time, in dilating, by the introduction of my fingers, one by one. I cautiously separated and removed the placenta,* which was adherent at the fundus uteri over a large extent of its superficies.

CASE VI.—*Placenta expelled; contraction at the os internum uteri.*

Mary Mills, ætat. 30. Sixth labour; December 8, 1839. The child was born at 4 A.M., and the placenta came away in a quarter of an hour. Pains, like those of labour, shortly followed, and large coagula were expelled. The midwife remained with her till 8 A.M. when, finding “a large fleshy substance” in the vagina, she sent off for me. I did not succeed in emptying the uterus by compression. The os uteri was open, and readily admitted my fingers; but, on carrying my hand upwards, it was opposed by such an unyielding contraction at the os internum uteri, that, after continuing

* Whether, according to the theory so ingeniously maintained by Mr. Carmichael, but which Dr. Doherty's observations go to disprove, the placenta be or be not attached to the lower and posterior part of the gravid uterus, in a very large majority of cases, thereby obviating bleeding during labour; nevertheless, by the change in the form which the uterus undergoes after the expulsion of the child, it becomes placed at the fundus.

steady dilating pressure, with counter-pressure by my right, on the abdomen, I was compelled to withdraw my hand. Having given sixty drops of laudanum, I succeeded, with ease, at the expiration of half an hour, in emptying the uterus.

CASE VII. — *Placenta expelled; atony of the uterus.*

Bartram, a very stout woman, of relaxed fibre, and with anasarca lower extremities, gave birth, after a tedious labour, to a very large infant. The placenta followed shortly. The bandage was not applied, although the teguments of the abdomen were lax and pendulous. The loss had been profuse, saturating the bed, and running on to the floor. The pulse was scarcely perceptible. Having given ether, laudanum, and diluted gin, I made powerful compression of the abdomen. These means failed to rouse the atony of the uterus. Accordingly, standing on the bed, I emptied on the abdomen of the patient three large ewers of cold pump water; but this also caused no uterine action. The pulse could no longer be felt. I immediately introduced my left hand within the uterus, while with my right I compressed the bulky uterus. By the stimulus of the hands, and free exhibition of the diluted gin, the expulsion of the uterine contents was effected, and permanent uterine contraction induced. On the tenth day after delivery she quitted her bed, but complained much of vertigo, and pain at the crown of the head. On the twelfth I was called in haste in the night to her. I found her speechless, with loss of power in the left arm; sensation, however, remaining, and a pulse full and slow. The bowels had been relieved. I took away about five ounces of blood, keeping my finger on the pulse. I afterwards directed small doses of ether and ammonia. She recovered by the use of vegetable tonics and aperients combined.

CASE VIII. — *Placenta expelled; inertia of the uterus.*

Mrs. B. æt. 26, was attended by me, in her first confinement, May 10, 1840. She had enjoyed little or no sleep during the three preceding nights; and complained of fatigue during the first stage of the labour, which was completed at 10 A.M. Effective pains did

not come on till the last six hours, when they followed quickly. The child was born at 4 P.M., and uterine contraction soon expelled the placenta. The body was bandaged. In about twenty minutes the nurse came to me in an adjoining room (where I was examining a malformation of the infant's fingers and toes), and said my patient was "losing." I removed the binder, and, on compressing the uterus with my hand, several coagula were expelled. I gave a draught of cold water, and reapplied the binder. After a time, on making compression upon the uterus, my patient said she "was losing again." The uterus contracted again on my grasping it, but on removing my hand, it again relaxed. Flapping cold cloths on the body, and their application to the pudendum, did not bring about a secure state of the organ. The alternate contraction and relaxation of the uterus continuing, I gave four half-drachm doses of infusion of ergot, at intervals of a quarter of an hour; the third and fourth doses were vomited. My patient shortly complained of pain in the womb. Not having had much experience of the efficacy of ergot, and not being satisfied with her state (for, although she had not fainted away, her loss had been very considerable), I gave her forty drops of laudanum in a wine glassful of diluted brandy. She soon said she "felt much better," and all further anxiety was at an end, for the permanent uterine contraction was secured.

9, Queen Ann Street,
Nov. 26, 1841.

CLINICAL REPORTS
OF
DIFFICULT CASES IN MIDWIFERY.

BY ROBERT LEE, M.D. F.R.S.

[First and second Reports, continued.]

Sixteen cases of Uterine Hæmorrhage in the latter months of Pregnancy.

1. *Eight cases of Placental Presentations.*

THE first report contained the histories of 23 cases of uterine hæmorrhage, from attachment of the placenta to the neck of the uterus. Eight additional cases are here recorded. Thirteen of the thirty-one cases I have related occurred in the seventh, twelve in the eighth,

and six in the ninth month of pregnancy. Twenty-three of these recovered from the immediate effects produced by the loss of blood; eight died within a very short period from the occurrence of the hæmorrhage; and five of the thirty-one were subsequently destroyed by inflammation of the veins of the uterus.

CASE CLXXIV.—At two o'clock in the morning of the 30th July, 1839, Mrs. R. æt. 40, of Hadlow Street, Burton Crescent, was suddenly attacked with profuse hæmorrhage. She was seven months pregnant, and was perfectly well till the flooding commenced. I saw her at $\frac{1}{2}$ past 10, A.M., when the os uteri was dilated to the size of half a crown, but thick and rigid. The placenta was adhering nearly all round to the cervix, the hæmorrhage continued, and she was very faint. I endeavoured to pass the whole hand into the uterus to deliver, but found it impossible to introduce it. The fore and middle fingers were, however, easily passed up between the placenta and uterus on the fore part, and with these, before the membranes were ruptured, I seized a foot and brought it into the vagina, and soon extracted the child, which was dead. The placenta soon followed, and there was no further hæmorrhage, and the recovery was rapid.

CASE CLXXV.—On the 22d Feb., 1840, I examined the body of Mrs. Cook, æt. 33, who had resided in John Yard, Lisson Grove. A great uterine hæmorrhage had taken place spontaneously six weeks before, when she was seven months pregnant. Another took place on the 19th Feb., which continued till the evening of the 21st, when her medical attendant, with some difficulty, introduced the hand into the uterus, perforated a portion of the placenta, and turned the child. The head was extracted with difficulty: the placenta soon followed; but she soon after began to sink, and died in an hour and a half. There was an extensive laceration in the mucous and muscular coat of the cervix uteri on the left side, and a smaller and more superficial rent on the right side. The placenta had adhered to the whole circumference of the cervix. The pelvis measured only $2\frac{3}{4}$ inches from the base of the sacrum to the symphysis pubis.

It was the fourth time she had been pregnant. Labour had come on spontaneously at the end of the seventh month of her first pregnancy, and the child was born alive and has been reared. She went to the full period with her second child, and was delivered by craniotomy. Premature labour was induced at the end of the seventh month of her third pregnancy, but the child was born dead. Case IX. in the first Report, resembles this case in two circumstances, the distortion of the pelvis, and the uterine hæmorrhage from attachment of the placenta to the neck of the uterus.

CASE CLXXVI.—On the 9th Oct., 1840, Dr. Scott, of Barnes, requested me to see a lady in the seventh month of pregnancy, who had been attacked in the morning with profuse flooding. For several days before she had suffered from sense of weight and uneasiness about the uterus. The edge of the placenta was distinctly felt by Dr. Scott, and he ruptured the membranes and left the case to nature. We considered it unnecessary to turn the child. Strong labour pains having immediately followed, a dead child was expelled in an hour, and soon after, the placenta, without a renewal of the discharge. The recovery was rapid and complete.

CASE CLXXVII.—Mr. Hill, of Guildford Place, requested me to see a lady, on the morning of April 7th, 1841, who was in the eighth month of pregnancy, and who, a month before, had a hæmorrhage from the uterus, but not very profuse. On the 3d of April, a great gush of blood took place during some bodily effort, but she did not faint, and she went about again till the morning of the 7th, when an immense discharge took place, followed by faintness, coldness of the extremities, and great rapidity and feebleness of the pulse. The os uteri was thick, and so high up, and so little dilated, that it was with the utmost difficulty I could pass the fore and middle fingers within it. At first I thought it was the smooth membranes I touched, and I tried to rupture them, but the sudden gush of blood which followed soon led me to push the inquiry further, and to ascertain that the placenta adhered all round the cervix, as Mr. Hill at first believed. A more unfavourable case for the operation of turning could not have oc-

curred, yet its immediate performance was necessary to prevent death taking place without delivery. The whole hand was passed into the vagina, but only the fore and middle fingers could possibly be introduced between the placenta and uterus. After great exertion, I succeeded with these in drawing down a foot into the vagina, and after long-continued efforts, extracted the trunk and head of the child. The os uteri seemed, at first, to grasp the neck with a force which could not be overcome, but it ultimately yielded and allowed the head to pass. The placenta was detached and soon came away, and no hæmorrhage followed. The pulse could scarcely be perceived for many hours after, but the circulation in the extremities was gradually restored, and she recovered perfectly.

CASE CLXXVIII.—On the 19th May, 1841, an experienced surgeon requested me to see a patient who was in the seventh month of pregnancy, and who had been attacked with uterine hæmorrhage three weeks before. It was profuse, but soon ceased, and did not return till the evening of the 17th May, when it induced great faintness. It had not entirely ceased when I saw her two days after, and she was faint, with a feeble rapid pulse. The os uteri was open to the size of a crown, and the placenta adhered nearly all round to the cervix. Immediate delivery being necessary, the hand was passed up between the placenta and uterus, and delivery accomplished in a quarter of an hour. While extracting the child there was a convulsive fit, with foaming at the mouth. Another convulsive fit soon followed the delivery, with jactitation, vomiting, and inclination to sleep, and she died in less than four hours.

CASE CLXXIX.—Mr. Jonson, of Grosvenor Place, West, took me, on the 26th May, 1841, to see a case of uterine hæmorrhage in the eighth month of pregnancy, from placental presentation. The first attack of flooding had occurred spontaneously three weeks before, without any pain. It had returned several times, but not very profusely. The os uteri was high and rigid, and open to the size of half-a-crown, and the placenta was adherent all round, except at one point, where it had been detached. In the evening a sudden gush of blood took place, fol-

lowed by great faintness. The delivery was immediately effected by passing the hand between the detached portion of placenta and uterus, and turning the child. The hæmorrhage ceased, and the patient speedily recovered.

CASE CLXXX.—On the 10th Nov. 1841, I was called by Mr. Roach to a case of sudden and profuse uterine hæmorrhage, near the full period of pregnancy. The quantity of blood discharged in an hour was very great, and was followed by syncope. The flow of blood had ceased when I saw the patient soon after, and it did not return, though the edge of the placenta was felt detached, and slightly protruding through the orifice. The following morning labour pain came on, the membranes gave way spontaneously, and the child was born alive, without any artificial assistance. The placenta soon followed, without any discharge of blood. She recovered quickly.

CASE CLXXXI.—At 6 P.M. on the 13th Nov. 1841, Mr. Rouse, of Walham Green, called me to see a lady, eight months pregnant, who had awoke two hours before with a most profuse discharge of blood from the uterus. She rose, and it continued to flow till she became faint, and was replaced in bed. At 6 o'clock it still continued, and a very great quantity had been lost. The os uteri was so high up, and so much directed backward, that it was extremely difficult to introduce the fingers within the orifice to discern if the placenta presented. At last we succeeded in ascertaining that it adhered to the cervix nearly all round. The orifice was thick, and it admitted two fingers, but it was dilatable, and the hand was immediately and without difficulty passed into the uterus, and the child delivered alive. The placenta soon came away, and the recovery was rapid and complete.

SECTION II.—*Eight Cases of Uterine Hæmorrhage from detachment of the Placenta from the upper part of the uterus.*

CASE CLXXXII.—On the 6th July, 1840, Mrs. —, æt. 41, in the eighth month of her eleventh pregnancy, was seized, at 8 P.M. with an indescribable uneasiness and sense of fulness about the uterine region, with a feeble pulse,

but no discharge of blood from the vagina. At 3 P.M. 6th July, hæmorrhage began to take place to a small extent. At 10 P.M. there was an immense discharge. Os uteri dilated to the size of a crown, with continual pain. The flooding immediately ceased on the liquor amnii being evacuated by Mr. Owen. At three the following morning a dead child was expelled, and the placenta followed, with great masses of coagulated blood. She recovered. The membranes might have been ruptured with propriety before the blood began to flow externally in this case.

CASE CLXXXIII.—On the 1st July, 1841, Mr. Owen requested me to see a patient who was attacked, without any apparent cause, with profuse uterine hæmorrhage in the eighth month. The os uteri he found dilated to the size of half-a-crown, and thought the placenta was partially adherent to the cervix. Four hours after, there were slight pains, but the discharge continued, with great faintness. I found the os uteri rigid, and the membranes unruptured, and could not touch any part of the placenta. The liquor amnii was discharged with difficulty, in consequence of the membranes not being put upon the stretch from the feebleness of the pains. The flooding continued, with great faintness, for nearly three hours after the artificial rupture of the membrane, when a dead child was expelled. The placenta was wholly detached, and came away immediately with a great quantity of blood. This patient was exposed to the greatest danger from trusting too much to the effect of discharging the liquor amnii.

CASE CLXXXIV.—Mr. Jonson, of Grosvenor Place, West, called me, on the 19th Sept. 1841, to a case of dangerous uterine hæmorrhage, in the seventh month of pregnancy. It occurred suddenly, and without any apparent cause, and was accompanied with constant vomiting, and distressing restlessness, and a condition approaching to delirium. The placenta did not present. The os uteri was little dilated; and Mr. Jonson had much difficulty, from the same cause as in the last case, in rupturing the membranes. The hæmorrhage, however, immediately ceased on the escape of the liquor amnii, and a dead child was soon expelled. Recovered.

CASE CLXXXV.—On the 1st Dec. 1840, Mr. Pocock, Brompton, was called to a patient in the eighth month, who had suddenly been seized with flooding, and lost in a short time about two quarts of blood. Mr. P. suspected that the placenta presented; and, from the os uteri being very high up, thick, and little dilated, and the anterior wall of the vagina being pressed down, I had much difficulty in positively ascertaining that the placenta was not within reach of the finger. On rupturing the membranes a great quantity of liquor amnii rushed out; strong pains followed, the hæmorrhage ceased, and in six hours she was delivered of a living child, and recovered favourably. The umbilical cord was remarkably short in this case, and the placenta came away with the child.

CASE CLXXXVI.—On the 31st August, 1840, I was called to a case of uterine hæmorrhage, at Lambeth, in the eighth month of pregnancy. Three medical practitioners had examined, and thought they felt the placenta adhering to the cervix, and that the operation of turning was urgently necessary. The upper part of the vagina was filled with coagula; but, on removing these, I could distinctly feel the smooth membranes all round, and unruptured. A dead child was expelled two hours after the discharge of the liquor amnii, with a quantity of coagulated blood. The hæmorrhage, which had been considerable during three days before, ceased on the membranes being ruptured, and the patient did well.

CASE CLXXXVII.—A lady, about six months pregnant, had suffered from great uterine hæmorrhage, during three weeks, with feeble irregular uterine contractions. On the 29th May, 1840, when I saw her with Mr. Pocock, the discharge continued; the os uteri was slightly dilated, the pains feeble, and the pulse rapid; the head presented. On rupturing the membranes, which were felt all round, the flooding ceased, and the case ended favourably.

CASE CLXXXVIII.—A lady, in the ninth month of pregnancy, was attacked with uterine hæmorrhage, on the 8th Dec. 1841. It was referrible to no accident. The movements of the foetus had not been felt for some days. Two hours after the membranes were ruptured, a dead child was expelled,

with the cord twice round the neck. The placenta came away with the child, and the hæmorrhage ceased.

CASE CLXXXIX.—With Mr. Curtis, at 49, Great St. Andrew's Street, on the 18th Dec. 1840, I saw a case of profuse uterine hæmorrhage with great faintness, in the first stage of labour. The discharge had continued several hours. The flooding immediately ceased after rupturing the membranes; and in a few hours a dead child was expelled, with the funis twisted firmly three times round the neck.

SOME REMARKS
ON
CERTAIN DISEASES OF THE EYE:

ILLUSTRATED BY CASES.

BY JOHN CHARLES HALL, M.D.
Member of the Royal College of Surgeons,
London, &c.

(*For the Medical Gazette.*)

1. *Morbid conditions of the conjunctiva and sclerotic.*

A RATHER extensive practice of my own in diseases of the eye, as well as a careful examination of numerous patients brought to the wards of the ophthalmic hospitals of the metropolis, and Hôtel Dieu, Paris, induces me to consider this form of disease very frequent; and I have, in many cases, been consulted where it had assumed a chronic form, and in which the patients had long been exposed to great pain and suffering. I have at present in this town a lady under my care, in whom the disease has existed for some months, but which is gradually giving way to a plan of treatment we shall hereafter proceed to examine, and which I have generally found to succeed. Mr. Tyrrell, in his valuable and truly practical work, traces this disease, in almost every case, to a rheumatic diathesis; and although in some patients rheumatism has affected some other part of the body, either at the same time or previously, in others the affection of the eye has been independent of it, so far as I have been enabled to discover. It may, however, be as well, for the sake of arrangement, as well as to save as much as possible the space of these valuable pages, to consider—1. The appearance of the eye, with the local and constitu-

tional symptoms; 2. the causes; and, 3. the treatment of this form of inflammatory disease, which appears simultaneously to attack both the sclerotic and conjunctiva.

1. *Appearance of the eye.*—If examined with a powerful glass the eye will be found to exhibit the compound symptoms, which clearly point out an affection of the two membranes at the same time. There is a sensation as though fine grains of sand were placed between the eyelids; there is a feeling of heaviness and stiffness about the lids; and the eyelashes are generally gummed together during sleep. This secretion is of a very peculiar viscid nature, and coagulates on the cilia and at the canthi. The vision may become affected; luminous objects seem to possess a coloured ring; the patient shrinks from the light; complains of heat and increased lacrymation; the tears are hot, and impart a burning sensation, and not unfrequently flow over the lower eyelid upon the cheek.

Such will be an outline of a case under ordinary circumstances, and such the symptoms a very slight examination will detect; but, in addition to these, we shall find the conjunctiva of a deep-pink colour, and, on very close inspection, the vessels of the sclerotic may be also seen passing beneath those of the conjunctiva; they are of a dull-red, and pass in straight lines radiating from the outer edge towards the orbit. The vessels of the conjunctiva are more tortuous, and frequently anastomose; they are also of a different colour. The patient experiences a dull aching pain, which is not confined to the globe, but extends over the forehead, temple, cheek, and even affects the side of the head. The globe is tender and painful, as though it had been bruised, and the patient frequently exclaims, "My eye feels as though I had had a violent blow upon it." This leads us, in the next place, to an inquiry into the constitutional symptoms; and I may at once remark, that I never remember to have seen one case in which there was not, in addition to the local affection, considerable general derangement of the system. The functions of the uterus are imperfectly performed; there is either total suppression of the menses, or the secretion is scanty and of a pale straw-colour; the tongue is loaded, particularly at the back; the hands are

cold and clammy; there is little or no appetite; the bowels are loaded—the abdomen appearing tense and swollen; the secretion of urine is scanty, and a deposit of red sediment may frequently be detected; there is a general febrile excitement; and towards night many of these symptoms are aggravated.

2. *Causes.*—The disease is seldom seen in persons under puberty, and for the most part attacks such as are devoid of constitutional vigour; and of course every thing tending to depress the powers of the body has a tendency, if not to induce, at any rate to render the eye more liable to attacks of this nature. The disease being most common in the spring and autumn, among the more common exciting causes may be mentioned the influences of sudden changes of temperature, cold winds, and damp air. Mr. Tyrrell was enabled, in some of the more obstinate forms of this disease, to trace the source to a gonorrhœal taint in the constitution. To this list of direct or exciting causes must be added errors in diet, which tend to produce more or less gastric disturbance.

3. *Treatment of inflammation of the conjunctiva and sclerotic.*—The measures to be adopted will depend, in some measure, upon the extent of the disease, and the stage at which we are called to attend it. In consultation-practice we seldom see cases of this kind when in the bud; some progress is generally made before an opportunity is afforded of seeing them; and I am free to confess, that in too many cases the use of the lancet, large quantities of leeches, and other paraphernalia for reducing the system, have to be lamented: they are never required in this form of the disease; and so far from doing good, frequently produce considerable injury.

Suppose, then, when called, we find the disease confined to the conjunctiva and sclerotic—the more important parts as yet being free from the disease—our attention will, in the first place, be directed to the deranged functions. A sallow complexion, coated tongue, offensive breath, confined bowels, and bad appetite, will point out the propriety of administering a full dose of calomel and rhubarb, followed every three or four hours by a senna draught, until the bowels are unloaded, and the fulness of the abdomen removed. Having procured this free evacuation of the bowels, it will be necessary to endeavour further

to improve the condition of the secretions, by small doses of mercury, at bed-time; and as there is frequently great pain and restlessness, an opiate may be given with advantage. I find this the most useful:—*R* Pulv. Doveri, gr. viij.; Hydrarg. c. Cretâ, gr. iv. ft. pulv. And in the morning this should be carried off by a simple saline draught. The feet should be placed in warm water, and the body warmly clothed; the patient should also be kept from exposure to cold air, and allowed, in the first instance, a light farinaceous diet—milk, whey, soda-water, gruel, and arrow-root. I consider it also important (and more particularly does this caution apply to country practice), that no bread should be given that is not at least a week old; and I prefer its being toasted: vegetables are decidedly injurious.

The local treatment is also highly important. A few leeches may be applied under the eyelid with considerable advantage, and the bleeding promoted by fomentations of warm water, or opium and water; a drachm of tr. opii to a pint of warm water. A large blister should be applied to the nape of the neck, and kept open. This will be found a much better plan of treatment than bleeding, either local or general, and it affords more decided and continued relief.

If the secretion from the eye is neither thick nor viscid, “I prefer,” says Mr. Tyrrell, “the application of dry warmth, either by portions of new flannel heated on a warming-pan, or by small flannel bags partly filled with chamomile flowers, and heated in the same manner. Such applications may be used as often as the patient desires.”

In the greater number of cases, however, the secretion is thick and viscid; and then, in the first instance, warm water and opium is the best application; but, according to my experience, the most useful lotion is a solution of nitrate of silver, in the proportion of two grains of the argent. nit. to one ounce of distilled water; this should be dropped into the eye twice a day. When there is much pain and tenderness, a few grains of extract of belladonna may be added to the last-named application with advantage.

Under this plan of treatment the patient becomes more comfortable, the

tongue clean, and the secretions improved; the eye, though still weak and painful, is better, and has lost that bright pink colour: true the vessels are still injected, but the hue is duller, and there is no longer a discharge of thick gluey matter. A more generous diet is now required; meat once a day, porter, or wine and water, should be given: care being taken that the bowels are kept open. Five grains of blue pill at bed-time, and an aperient draught in the morning, must once or twice a week be exhibited. Tonics will now be required, as quinine, with an extra quantity of sulphuric acid, in the infusion of roses: this is more particularly useful when the patient is bathed in perspiration during the night, and when there is considerable debility. Or five grains of powdered bark, and three of sesquicarbonate of soda, may be given two or three times a day. Compound decoction of sarsaparilla, with liquor potassæ, or infusion of gentian and lime water, will be found very useful. In cases where the uterus imperfectly performs its functions, preparations of steel, with the compound decoction of aloes, are indicated; and it is curious to observe, in patients suffering from diseases of this nature, how soon the local affection subsides on the improvement in the general functions of the body. Turpentine and colchicum have also been extolled as certain remedies in affections of this nature. Never having used them, except the latter in certain forms of this disease, I can, of course, pronounce no opinion as to the merits of either, but still think them inferior to some remedies already recommended. The following cases may be mentioned as illustrative of the success of the treatment above pointed out.

CASE I.—During the spring of the present year I was requested to see the daughter of the coachman of Granvill Harcourt Vernon, Esq., M.P. for East Retford. I found her suffering under a rather severe attack of inflammation, affecting both conjunctiva and sclerotic. The palpebræ, at their free margins, were much swollen, and the vessels of the conjunctiva injected with blood; the vision was much impaired; the iris dull and turbid, and perhaps a little altered in colour; the pupil was contracted; the pain in the eyeball considerable; there was also, on the ocular

part of the membrane, a slight chemosis. She complained of pain in the right shoulder, and fancied she had taken cold some time ago. This was the third or fourth attack of the disease during the last two years, and the affected eye had now been bad two months, and had not improved under the remedies employed. The tongue was loaded; the abdomen tense; the bowels costive, seldom relieved except by medicine, and frequently two or three days passed without any evacuation being obtained. A sharp corneal-knife was applied to the inner side of the lower lid, and the bleeding encouraged by fomentations of warm water. Some extract of belladonna was directed to be applied over the eye every night. Two grains of calomel, and four of extract of colocynth, to be taken directly, and an aperient draught in three hours.

℞ Hydrarg. c. Cretâ, gr. iij.; Pulv. Doveri, gr. iij.; Pulv. Sodæ Sesquicarb. gr. viij. ft. pulv. o. n. sumendus.

℞ Decocti Aloes C. ʒiij.; Infusi Sennæ, ʒiv.; Tr. Card. Co. ʒij. ft. haust mane meridiæque sumend. Four leeches were applied under the eye, and repeated again in three days; a blister to the back of the neck—to be kept open.

Under this plan of treatment a great improvement took place in the general health. A nutritious diet was prescribed, with a glass of port wine in water once a day. The following mixture was substituted for the above. (This form of making the infusion of cheryta was first pointed out by Sir James Clark, and is one of our best vegetable tonics.)

℞ Cherytæ, ʒij.; Aquæ Bul. ʒij. Infuse per horas quatuor tum cola.

℞ Hujus Solutionis, ʒiv.; Potass. Iodidi, gr. iss.; Aquæ Rosæ, ʒv.; Syr. Tolutani, ʒi. ft. haustus ter die sumendus. Three grains of Hydrarg. c. Cretâ at bed-time, and two of extract of Hyoscyamus.

In cases of this kind the above preparation of iodine, combined with a mild bitter, is one of the best medicines we can possibly prescribe. A solution of nitrate of silver (three grains to an ounce of water) was applied twice a day to the eye; and in about six weeks from the time of my first seeing her, no traces of disease remained. In all cases of this kind we have to fear an extension

of the disease to the iris, choroid, and deeper textures of the eye.

CASE II.—Mary M——, æt. 25, thin and pallid, applied to me with inflammation of the conjunctiva. She had been attacked with rheumatic fever some years ago: had not menstruated for the last six months. The hands and feet were cold, and the skin moist; She obtained the means of supporting herself by dress-making, and was frequently confined for days in her small room without taking exercise. On the Sunday she was glad to remain in bed, feeling no inclination to move about. The local affection was severe. I directed the application of warmth to the eye, and a weak solution of alum. The pil. al. c. myrrh, at bed-time, and some decoction of aloes and infusion of gentian during the day; a blue pill and senna draught once a week. She was placed, through the charity of a clergyman, upon a good light nutritious diet, made to keep herself warmly clothed, to put her feet in warm water, and to take moderate exercise when the weather permitted.

In about a month the catamenia appeared, and the disease in the eye gradually vanished without the application of any local remedy.

CASE III.—Mr. C——, æt. 26, a very gay and dissipated young man, applied to me, suffering under the worst possible form of this disease. He had a discharge from the urethra at the time, and “could not tell how many times he had been affected with gonorrhœa.” Had taken some pills and copaiba for this attack, but had paid no attention to diet; had in fact been frequently up late at night, indulged in sexual intercourse, and partaken freely of wine and spirits. He complained of pain in one knee. He was requested to keep at home, to abstain from spirits and wine, and live upon a nutritious diet. His appearance was haggard; the countenance pallid, and care-worn in the extreme; there was great depression; the pulse quick and feeble; there was also considerable conjunctivitis, and a viscid secretion from the eye. The only local application was warm water and tincture of opium to the eye; half a drachm of blue ointment, with opium, to be rubbed over the eye every night at bed-time.

℞ Pulv. Doveri, gr. x.; Hydrarg. c. Cretâ,

gr. v. ft. pulv. horâ decubitus omni nocte.

℞ Decocti Aloes, ʒss.; Infusi Gent. Co. ʒi. ft. haust. mane. M.

℞ Potass. Iodidi, gr. ij.; Vin. Sem. Colchici, ℥x.; Infusi Cherytæ, ʒiv.; Aquæ, ʒi. ft. haust. ter die.

6th.—Under this treatment he appears better this morning; is cheerful, and has passed a good night; the eye still continues very painful.

A blister to the back of the neck; continue the remedies.

8th.—Going on well.

A drop of the solution of nitrate of silver to be put into each eye every morning.

14th.—Better. There is yet some inflammatory action going on in the sclerotic. He expresses himself as feeling much better in his health. I ordered him to take a pint of porter every day, and to leave off his present medicines, and not to use any more mercurial ointment; to continue the nitrate of silver in solution, three grains to an ounce of water, once a day.

℞ Pulv. Doveri, gr. iv.; Hydrarg. c. Cretâ, gr. iij. ft. pulv. o. n.

℞ Pulv. Cinchonæ, gr. iv.; Sodæ Sesquicarb. gr. iv. M. ft. pulv. ter die.

25th.—Quite well.

I have now mentioned the forms assumed by this disease, and the treatment found most successful. In some few cases change of air was recommended, and considerable benefit experienced in consequence.

Northampton, Dec. 1841.

SUCCESSFUL OPERATION FOR PROLAPSUS OF THE WOMB.

To the Editor of the Medical Gazette.

SIR,

My friend Mr. William Morday, of Sunderland, has sent me the rough notes of a successful operation for prolapsed womb. You will perhaps agree with me in thinking the case worthy of publication.—I remain, sir,

Your obedient servant,

N. S. MORRIS.

10, Henrietta-street, Strand,
Dec. 6, 1841.

Mary Robson, æt. 41, a widow, and mother of six children, of short stature

and broad pelvis, consulted me in March last for a procidentia uteri. She stated that she always felt a bearing down of the womb for some time after each confinement, but since she had the last child, having had a difficult labour, now nearly ten years ago, the womb appeared externally, and every effort made to replace and retain it failed, and it has remained suspended between the thighs ever since: at present it is the size of a child's head, ulcerated by abrasion; the os uteri partially open; vagina completely everted, dry and husky; monthly discharge profuse and irregular; constant irritation of the bladder and urethra, only passing about a table-spoonful of urine at a time; a constant dragging and painful sensation of the loins: in other respects does not appear to have suffered much in her general health. Proposed an operation for her relief, but she immediately took fright, and I saw her no more for six weeks, when she returned and consented to have the operation performed, as from the nature of her employment, attending a spinning frame in a rope factory, and being obliged to stand all day, she suffered great pain and inconvenience.

May 11th. — I proceeded to the operation, assisted by my friend Mr. Parker, surgeon, and my pupil Mr. Nattrass; and at the express wish of the patient the Rev. Mr. Skepsey attended, and inspired great confidence by his presence. Having previously emptied the bladder and rectum, she was laid over a bed on her face, when three large folds were excised from the posterior and lateral parts of the vagina; profuse hæmorrhage followed, and great difficulty experienced in securing the vessels: ligatures were introduced to keep the parts together, and then simply dressed. The patient bore the operation well, but was exceedingly faint from loss of blood.

7 P.M. — Feels faint and weak; slight hæmorrhage.

12th, 10 A.M. — Passed a quiet night, but without sleep; discharge rather profuse; skin hot; pulse quick; tongue dry.

To have a fever mixture every three hours, sago, &c.

7 P.M. — Still feverish and exhausted.

13th, 10 A.M. — Slept a little during the night; fever subsiding; complains of pain and swelling of the abdomen;

discharge more moderate; removed the dressings; wounds looking healthy.

To take a table-spoonful of castor oil immediately, and the abdomen to be fomented.

7 P.M. — Bowels relieved; feels easier.

14th, 10 A.M. — Slept better; discharge moderate; abdomen softer.

7 P.M. — Going on well.

15th, 10 A.M. — Passed a good night; wounds united; removed the sutures; ligatures have all come away; bowels regular; replaced the uterus in its situation, when a little pain was produced. A bandage was worn for security.

16th. — Passed a good night, and no appearance of descent of the womb.

17th. — Going on well; slight discharge.

18th. — Feels quite comfortable.

To have beef-tea, &c.

20th. — Much improved; appetite good; bowels rather confined; bladder less irritable.

To have ʒss. castor oil.

23d. — Sat up to-day for the first time; felt no inconvenience. Ordered —

A chop, &c.

26th. — Has been up every day since last report; much improved, and states that she feels better already, not having the dragging pain at all.

30th. — Has been up nearly all day, without inconvenience; monthly discharge commenced on the 28th, and still continues; is in good spirits, and says she is quite well.

June 2d. — Walked out yesterday for the first time; felt rather weak. Examined the vagina: the mucous membrane is re-assuming its healthy appearance; uterus reduced considerably in bulk, and retains its proper situation; appetite good; bowels regular; urine flows easily, and the bladder retains its contents the necessary period.

7th. — Thinks she caught cold when out, for she felt a slight bearing down with weakness. Ordered to keep quiet, and bathe the parts with salt water.

28th. — As a precautionary measure recommended the use of a small elastic pessary during the day.

July 10th. — Has worn the pessary, and has walked upwards of three miles without suffering, and has now great confidence of remaining well: found great benefit in the use of salt water.

Nov. 23d.—Since last report I lost sight of my patient, having removed a short distance out of town. She called upon me this morning, and stated that she has been working constantly at her old employment; that during the whole period the uterus has retained its situation, and she has no dread of a return: she looks well, and is in good spirits.

No greater proof can be given of the complete cure in this case than the fact of this woman being enabled to stand at a spinning frame nearly 12 hours daily for weeks, without suffering the slightest inconvenience. She is now restored to a comfortable state of existence.

KIESTEIN AS AN EVIDENCE OF PREGNANCY.

BY H. LETHEBY, A.L.S.

(For the London Medical Gazette.)

IN No. 11 of the Guy's Hospital Reports there is a valuable paper upon this subject, by Dr. Bird, in which he enumerates many cases to prove the existence of this principle in the urine of pregnant women. Since the publication of that report I have had many opportunities of investigating the subject; and, as the result will show, it forms an important addition to the already known symptoms of pregnancy. The object of this paper, however, is not only in furtherance of its value as such a test, but to point out certain precautions to be observed in the experiments, in order to prevent fallacy.

The urine should be procured at a time when the woman is as free from disease as possible; and I believe that passed early in the morning, after rest, gives the least variable indications. This should be exposed, in a tall narrow glass, to a continuous temperature of about 70° of F.; if a much lower temperature than this is used, say about 40°. I have known the urine stand for more than a fortnight without undergoing any change, although it be replete with kiestein or its principles, at a temperature of 70°. However, if the woman be pregnant, we shall observe, in two or three days, the first indication of its presence by the urine becoming turbid. In a day or two more a thin pellicle forms on its

surface, and this gradually acquires consistence up to a fortnight from the onset of the experiment. But long before this time you will have noticed its characteristic odour; certainly not like cheese, to which Dr. Bird compares it, but precisely analogous to the smell of raw beef beginning to putrefy: it is emphatically a *putrid smell*. I have kept the urine more than a month after this, but it never loses either its pellicle or peculiar odour.

Besides the error likely to arise from the adoption of too low a temperature, where the kiestein would not be separated, I would warn the earlier experimenter not to fall into the opposite error of confounding the pellicle which forms upon all urine on standing, especially that which contains the lithates in excess; the more so as the general as well as microscopic appearance of this pellicle is often precisely like that of kiestein. The appearance I am now alluding to, however, is never accompanied with the putrid animal odour; but, on the contrary, gives out a copious smell of ammonia, and when disturbed falls immediately to the bottom of the liquid. These are the two especial distinctions.

On the value of this test I shall be very brief:—Of the 30 cases examined by Dr. Bird, 27 gave the required indications of the presence of kiestein; the other 3 were at the time suffering under febrile excitement. Dr. Bird could not detect it in the urine of unimpregnated women, or after parturition, and during suckling.

In the American Medical Library, as quoted by the British and Foreign Medical Review for October last, is a report of the experiments of Drs. M'Pherters and Perry, the resident physicians at Philadelphia Hospital. These gentlemen found it in the urine of 24 out of 27 pregnant women. Of the three negative cases, two were not in health when experimented on; further, they could not detect it in the urine of 27 unimpregnated women.

In my own experiments, which have been made at all dates between the second and ninth month of utero gestation, there was unquestionable evidence of kiestein in 48 out of 50 cases. I am unable to account for its absence in the two exceptions, for I took care at all times to have the urine from women as free from disorder as possible.

In 17 non-pregnant women there was no indication of its presence. In examining the urine of 10 women during the time of suckling, I found it in all immediately after delivery, but that the evidence of its existence fell off at a period between the second and sixth months.

A question now naturally arises as to the cause of the presence of this principle, and what is its composition? It appears easily accounted for on the known sympathy that exists between the uterus and breasts; the latter of which, taking cognizance of the gravid condition of the uterus, prepares itself betimes for the proper performance of that function which by and by is to become its necessary duty. Certain principles analogous to those of milk, being imperfectly secreted, may, in this nascent condition, become reabsorbed; because, as Dr. Bird suggests, they do not find a ready outlet, and getting into the blood are excreted thence by the kidneys; and this habit of reabsorption may go on for some little time after the birth of the child.

The composition of kiestein is not so easily made out: examined by the microscope it consists at first of a multitude of globules, varying in size from the $\frac{1}{32000}$ to the $\frac{1}{8000}$ of an inch; after a time these break up, or coalesce and form flakes, and then crystals of triple phosphate generally become pretty abundant in it. This shows that the greasy appearance of the pellicle is not due, as Dr. Bird supposes, to the triple phosphate, for this is after formation; nor are these globules composed of fat, for they are perfectly insoluble in ether. I have not been able to detect them in the urine until it becomes turbid, so that they appear to be formed in the urine after expulsion. They are soluble in alkalies and in boiling acetic acid, and give all the reactions characteristic of coagulated albumen or fibrin: to these, then, they are most analogous; but nothing but an ultimate analysis can determine their identity or not. The globules do not differ in appearance from those contained in milk, but their complete insolubility in ether shows that they do differ.

9, Windsor Terrace, City Road,
Dec. 6, 1841.

A LARGE URINARY CONCRETION

FORMED UPON A DOUBLE HAIR-PIN, SITUATED PARTLY IN THE BLADDER AND THE VAGINA.

By GREGORY SMITH, Esq.

(For the London Medical Gazette.)

S. R., æt. 22, single, applied as a patient at the St. Marylebone General Dispensary in the month of July, 1841: complains of general debility and incontinence of urine. She states she has been ailing four years: was first taken ill while in service in a private family: she was attended by the surgeon for sickness, pains in the limbs, and general weakness: she was obliged to leave her situation, and was under the care of a medical gentleman at Westminster: she then went into the Westminster Hospital for several weeks, and was made an out-patient, having experienced little or no relief: the catamenial discharge had never appeared since her first attack of illness.

She afterwards became an in-patient of St. Bartholomew's Hospital, under the care of one of the physicians. At this time, she suffered pains in the lower part of the abdomen, frequency of making water, and had much discharge from the vagina. She took various medicines, was examined per vaginam, and was directed to use injections. Her symptoms increased very much after she left St. Bartholomew's Hospital, and her aunt, who was obliged to support her, procured the advice of several medical gentlemen, amongst others a gentleman in the city, who told her she had a stricture of the rectum; and she had bougies passed for some time without any benefit.

Her life had now become miserable to herself, and burthensome to her friends; her urine was constantly dribbling away, but during the last three months she has had no medical advice.

Her present appearance is miserable the extreme; countenance care-worn; in eyelids tumid, from crying and want of rest; she has been obliged to live in a room by herself, no one choosing to associate with her from the offensive smell of urine. She walks stooping forwards, and if she attempts to sit down, she rests with the nates upon

the edge of the chair; she is never free from pain. Her bowels act with tolerable regularity, but unless she takes medicine she suffers increase of pain and some difficulty during the voiding of the fæces. There has been no catamenial discharge for nearly four years.

Having explained to her there was no relief likely to be obtained without a careful examination of the urinary organs, she directly acceded to my request. On examination, a sufficient cause for all her sufferings was immediately obvious in the projection of a foreign substance, about the size of a small walnut, between the nymphæ and immediately beneath the meatus urinarius; on closer inspection, it was clearly an urinary concretion: its situation was unusual, and I imagined at first it might be a collection upon a pessary, but she denied all knowledge of any thing of the kind. I took a pair of forceps, expecting I might remove it with a little care, but it required more force, and it broke away. The external organs were natural, excepting a little inflammation and redness of the meatus urinarius, and the entrance to the vagina was as usually observed in young women not acquainted with marital rites. I endeavoured to pass my finger along the side of the calculus, which I succeeded in doing after a little careful dilatation, but as far as my finger reached the concreted mass was felt extending. It now became a question how its removal could be accomplished. It was obviously too large to be abstracted in one mass unless the orifice of the vagina was first carefully dilated. The patient being much exhausted with pain, I determined to discontinue my efforts on that occasion: bathing herself frequently with warm water, very little swelling followed. On the third day, having procured the kind assistance of Dr. Blakely Brown, and Mr. G. Stewart, I proceeded in the following way. The patient lying on her left side, I carefully inserted the blades of Weiss's three-pronged dilator into the orifice of the vagina, and after a short time I had sufficient room to pass in my finger, but in no direction could I feel the boundary of the concreted mass. I therefore determined to break it up with a strong pair of crushing forceps, and so lessen the sufferings of

the patient, which were augmented by the frequent spasmodic efforts at expulsion, and which made the task more difficult. When I had removed several pieces of the calculus, I found, to my surprise, projecting from the central part, a sharp point in one place and an abrupt line in another. I was now certain I had reached the nucleus, the nature of which, however, I could not make out: I charged the patient with knowing something about it, but she firmly denied all knowledge, and that she had ever been in the habit of committing mal-practices upon herself. After consultation with Dr. Brown, I took a strong boring instrument upon my finger, and, after some time, I succeeded in disengaging a long double hair-pin, bent upon itself in a curious form. I was now obliged to discontinue my efforts for the time, in consequence of the faint and exhausted condition of the patient. She experienced, however, very little inflammation and swelling, and on the second day she was able to have the remaining portions of the calculus removed. On introducing the finger, the mass was found extending high up in the vagina, and nothing but the concretion could be felt, broken up into numerous pieces. The greatest difficulty was experienced in abstracting the portion situated in the bladder; directly the finger or the instrument touched the neck of the bladder the patient became unmanageable.

After considerable trouble and pain to the patient, and frequently washing out the parts with warm water, we succeeded in getting away the whole mass, which weighed very nearly a quarter of a pound. Its composition was entirely of the triple phosphates.

In a few days afterwards, a free examination was made with the assistance of a speculum and a reflector: we ascertained that the destruction of the upper wall of the vagina and corresponding portion of the bladder had left a vacuity which would admit with ease three fingers; the meatus urinarius and about three quarters of an inch of the urethra remained perfect. Beyond the fistulous opening is a firm cicatrix, principally formed by adhesions from the superior portion of the vagina; about an inch in front of the os uteri, a lesser band extends across the lower and back part, which so con-

tracts the canal that the mouth of the uterus is felt with difficulty. Her general aspect has much improved, and she walks with comparative comfort. The external organs are red and partly excoriated, from the constant escape of urine. I have examined her again a short time since, and there is little or no alteration in the extent of the communication between the vagina and bladder.

In regard to the question, as to the time, and how, the hair-pin came there, it must remain a matter of conjecture, unless the person herself will give some account of it. I have often endeavoured, but I have been unable, to elicit one word in explanation; and her relation, on whom she is entirely dependent for support, both by threat and entreaty has been equally unsuccessful. From the manner in which she made the denial of mal-practices, from the stupid and somewhat idiotic expression of her countenance, my suspicions were greatly increased; and my impression is, that she had a guilty knowledge of the cause of her complaints.

It is probable, in a moment of sexual desire, she employed the hair-pin as a source of irritation; that it escaped her grasp, passed into the vagina, where it remained some time: it subsequently produced ulceration of the upper part of the vagina and corresponding portion of the bladder, and having partly escaped into the bladder it gradually became encrusted with the calcareous mass.

DISSECTION OF A CASE OF SPINAL CURVATURE: WITH REMARKS.

BY JOHN GAY,

Surgeon to the Royal Free Hospital.

(*For the Medical Gazette.*)

E. G., a delicate-looking young woman, æt. 23, applied to me on account of her sufferings from a postero-lateral curvature of the spine, which involved some of the lower cervical and upper dorsal vertebræ, and had its convexity towards the left side. She referred her deformity to a violent attack of pneumonia, which occurred to her at the age of twelve, rendered her life for a time hopeless, and produced a difficulty

of breathing, from which she had never since been free. About the same time she had a fall, which so affected her left arm and hand that she has since constantly used the right; and that in carrying heavy weights, such as buckets of water, baskets of clothes, &c. Her deformity gradually increased, and with it her general distress, until life itself became so irksome that she expressed herself willing and desirous to submit to any treatment which might afford her the slightest chance of relief.

On attempting to straighten the spine by extension, two muscular bands, composed of fibres of the sacro-spinales, were observed to be excited to powerful and resistant contraction, one on either side of the vertebral column. These bands could be traced from the vertebral aponeurosis common to the erector muscles of the spine, to the angles of the ribs, and to the vertebræ principally concerned in the deformity. Shortly after I saw her she was seized with fever, and died. During her illness she complained of acute pain at the apex of the left lung, which was only relieved by pressing down the common cartilages of the sixth, seventh, and eighth ribs. The following is an account of a post-mortem examination which I had the opportunity of making, with the valuable assistance of my friend Dr. Jeaffreson.

On removing the integuments, the muscles of the chest, both before and behind, were found to be but very feebly developed and pale. The intercostals on the left side had lost the usual characteristics of muscular tissue, and become, to all appearance, degenerated to a mere membranous expansion. The sacro-lumbales and longissimi dorsi, together with the powerful aponeurosis from which many of their fibres arise, were, on the other hand, comparatively large and powerful. The abdominal muscles were similarly proportioned, although they partook of the general feebleness of integral structure. On opening the abdomen the diaphragm was observed to be very powerful; its muscular and tendinous portions were dense and strong, and its ascent into the cavity of the chest was unusually high.

At this stage of the dissection an attempt was made to straighten the spine, by applying extension to both extremities, which caused the sacro-

lumbar fascia to become tense and resistant. That structure having been divided by a transverse incision, the forces were re-applied, and a very trivial amount of elongation was evinced by the separation of the sides of the wound in the fascia just mentioned, to the extent of half an inch; but of the muscular bands, which, during life, were brought into very marked and energetic contraction by similar means, no traces whatever could now be discovered.

All the muscles which are known to affect the spinal column were now removed, together with the contents of the chest and abdomen, and a further attempt made to reduce the curve; but it was perfectly unavailing, beyond the slight yielding recently referred to. Force was now applied in other directions, with the same end in view; but, in despite of all, the column retained its curvature.

The chest was unsymmetrical; the left shoulder being higher and more rounded on its posterior aspect than the right. It was also flattened in front, and altogether less conical than in a normal condition, which arose from a greatly increased obliquity in the direction of the bodies of the ribs generally, but of those especially which were more immediately influenced by the curvature. The curve itself was formed principally by the three lowest cervical and six upper dorsal vertebræ. The angles of the second, third, fourth, fifth, and sixth ribs, on the left side, were so closely approximated to the spinous processes of the vertebræ, that together they formed a very prominent sharp ridge, with a curve parallel to that of the spine. From this ridge or angle the bodies of the ribs were continuous obliquely downwards and outwards, so that the scapula rested on the side rather than on the back of the chest. At their curvatures, on the right side, several of the ribs were in contact; and on the left they were not, nor could be, separated from each other to their usual extent. Another result was, that the common cartilages of the seventh, eighth, ninth, and tenth ribs, on both sides, intruded upon the epigastrium, and on the left formed a remarkable prominence over the site of the stomach.

The general appearance which the walls of the chest presented, as far as

the ribs were concerned, was that of their having been drawn downwards beyond their proper sphere of action by the abdominal muscles, and flattened or rather bulged inwards by the diaphragm.

The intervertebral fibro-cartilages, along the whole course of the curve, had become thinned on its concave, and thickened on its convex side, apparently the result of interstitial absorption and deposition, and consequently retained no power of resilience to aid, or passive elasticity to permit, the restoration of the spine to its normal shape, in the event of other obstacles having been removed.

The lungs were small, emphysematous, and adherent to the chest along their posterior surface by means of pleuritic bands. The upper lobe of the left lung, the situation in which she complained of pain during her last illness, presented very considerable sero-sanguineous engorgement, without any trace of tubercular deposits. The heart was large, and forced out of its position, slightly towards the right side of the chest.

The foregoing examination I have considered to be sufficiently important to merit the attention of the profession, as it bears upon the question as to the admissibility of operations in cases of spinal curvature. The division of fibres of the erector muscles of the spine, or rather of the aponeurosis to which the principal masses on the one side are attached, has been much practised, with the view of permitting the column to be straightened by the after use of mechanical agents. The adoption of such a course of treatment has obviously been founded upon a fancied analogy between these and other distortions, such as clubbed-foot, contraction of the knee-joint, &c. &c. — an analogy which the few records of post-mortem examinations, and of which the case just related is but a mild specimen, demonstrate to be perfectly defective. In this instance it is probable that a permanent injury to the contents of the chest (the lungs and pleura more especially), from the serious illness in early life, had an effective relation to the deformities of the osseous system which followed. But whatever in reality constituted the immediate cause, it is most important to note that the

structures composing the boundaries of the chest, especially the bones and fibro-cartilages, had, in the course of time, become altered from their original form and relationship by organic action. The ribs and vertebral column had not been merely twisted or bent from their normal course or shape, and so kept by forces acting upon them from without, but had been evidently (as it were) remodelled during the lapse of several years, in conformity with the plan upon which it is not improbable that, after the accession of permanent injury to its contents, the whole chest had to be shaped; and that by organic action upon the very tissues themselves. In other curved spines which I have since examined, not only were the intervertebral fibro-cartilages thus organically altered from their pristine shape, by absorption on one side and deposition on the opposite, but the bodies of the vertebræ themselves had undergone a corresponding change, and had become considerably thicker on the convex and thinner on the concave side of the curves. In the Catalogue of Guy's Hospital Museum, by Dr. Hodgkin, there are several preparations mentioned, in which, in addition to the changes just named, a secretion of bony matter has taken place on the concave sides of the curve, anchylosing the vertebræ to each other. M. Bouvie has published several dissections of spinal curvature, which abound with interest. In a subject at 18 months, he says, "An attentive examination discovered the cause in the very structure of the spinal column, the curve of which was produced by the sinking down and thinning (*l'affaissement et le rétrait*) of the intervertebral ligatures on the left, from the fourth to the ninth dorsal vertebræ, together with a sensible diminution in height on the same side of the third, fourth, sixth, and seventh vertebræ themselves." In another subject, at the age of 8 years, similar changes were observed; and also in others, who were examined at the ages of 15, 35, and 63, the alterations of the bones being greater as the individuals had advanced in age.

These pathological facts appear to me to be abundantly sufficient to destroy the presumed analogy to other contractions which do admit of relief by operation, upon which the division of the tissues for the cure of spinal cur-

vature has, to all appearance, been based; and to make it more than questionable whether the latter operation is at all justifiable. In the one set of cases the cause of deformity (as, for instance, in the case of a contracted knee-joint) is foreign to its seat, as the cord to the bow, and may be termed, as far as the mere mechanism is concerned, "physical;" but in the other the cause is "organic," and resides in the very elements of which the deformed column is constituted, mechanically analogous to the bearing and shape of the stone wedges which go to form an arch.

There may be, and no doubt are, cases where no such organic changes have as yet taken place, in which the curvature might have been produced by irregular muscular action arising from scrofula, rickets, or other debilitating causes; but these afford no indications for operation. My friend Mr. Coulson, whose experience entitles his observations to attention, has remarked (and in his opinion I fully coincide), that the deformity in such cases may be cured by proper exercise, sea-bathing, and tonics; whilst in cases far advanced, such as those to which I have referred, all operations are worse than useless.

12, Finsbury Pavement, Nov. 23, 1841.

MIDWIFERY CASE—PERFORATION.

To the Editor of the Medical Gazette.

SIR,

I was sent for by a midwife Nov. 27th, 1841, at 9 o'clock A.M., to visit a Mrs. C—, who had been in labour about twelve hours. On examination of the case, I found the head rightly presenting, and the os uteri nearly dilated, the pulse natural, and no unfavourable symptom; therefore I urged the necessity of patience, stating that I thought the case would terminate naturally in the course of the day. I again saw the patient about 6 o'clock P.M.; found the head had somewhat descended into the last outlet of the pelvis, the pains not being very strong: consequently I left her in the care of the midwife, who is a very discreet woman, at the same time stating my readiness to attend if needful. On the following morning, at 5 o'clock, I was again summoned,

and was informed the pains had been very severe since 2 o'clock; the head I found in the same situation as when I left her on the preceding evening; her pulse 120, and feeble. I therefore determined on immediate delivery with the forceps. Having introduced a short pair, I found I could not completely compress the handles; made extension, but the forceps slipped. I used them a second time, with similar results. I next applied the long forceps; they also slipped off the head. Finding it impossible by these means to deliver the woman, I resolved on perforating the cranium. Immediately after introducing the perforator, which passed very easily, at least two quarts of fluid escaped, of a sero-sanguinolent character. With the application of the short forceps the fœtus was born, and to my astonishment lived about fifteen minutes, occasionally crying. The head showed the remains of an enormous sac, the bones being widely separated, with not more than two ounces of brain in the cavities of the skull.

The above is a simple detail of facts; the singularity of the case consists in the immense quantity of fluid generated in the fœtal cranium during gestation, also the possibility of life being preserved after perforation of the skull; shewing the propriety of using the common forceps instead of the craniotomy forceps after the perforation, as it might not be impossible to save the life of the child after perforation of its skull.

There are not wanting instances to prove that the substance of the brain in children will bear much violence without the destruction of life. I well remember, during the last year of my residence with Mr. Cook, of Gainsborough, being called to see a case of compound fracture of the skull of a child seven years of age, whose injury was caused by a kick from a horse; when I removed a lacerated portion of the left hemisphere of the cerebrum, about one inch square, with some fragments of bone. The child did well, without a single unfavourable symptom, and was running about in health within a month from the occurrence of the accident.

I remain,

Your obedient servant,

JOHN GRANTHAM.

Crayford, Kent, Dec. 1841.

ANALYSES AND NOTICES OF BOOKS.

“L'Auteur se tue à allonger ce que le lecteur se tue à abréger.”—D'ALEMBERT.

Memoire sur l'Etiologie Générale des déviations latérales de l'Epine par rétraction musculaire active. Par le Docteur JULES GUERIN. Paris, 1840.

Memoir on the General Etiology of Lateral Deviations of the Spine through active muscular retraction. By Dr. JULES GUERIN. Paris, 1840.

OF all those who have worked in the improvements and errors of modern surgery, none have been more enterprising than M. Jules Guerin, the editor of the Paris Medical Gazette. It is difficult, indeed, to follow him in the rapidity with which he publishes novelties in the results of subcutaneous incisions, in the pathology of deformities congenital and acquired, and in other cognate subjects; and there are now before us several of his memoirs on these subjects, which, though a year has scarcely elapsed since the first of them was printed, are already, according to the French surgical reckoning of time, nearly *passés*. Nevertheless, we shall not let them go unnoticed, for, though tinctured with many of the faults of the country and the time, such as an inflated style altogether foreign to the subject, and a vehement contending for rights of priority, they yet supply much of that which is most wanted, namely, facts and reasonable arguments on the true pathology of the affections to which they relate.

This, on the Curvatures of the Spine, is the eighth of M. Guerin's memoirs on the deformities of the osseous system. The active muscular retraction, to which he attributes the majority of lateral curvatures, is the same condition in the muscles of the spine as that which, affecting those of the foot, produces the different varieties of club-foot, which, seizing the sterno-mastoid, gives rise to torticollis, and which, in a word, is (according to M. Guerin) the source of all those deformities that are curable by myotomy. Under the influence of some condition of the nervous system, the muscles may, it is generally known, be suddenly seized with involuntary spasmodic movements, in consequence of which they remain shortened and tense, and pull

in the direction of their action the portions of the skeleton to which they are attached. In the fœtus this retraction is, he believes, the principal agent of congenital articular deformities, and in the child, or even to a later period of extra-uterine life, is one of the sources of deformities of the spine, and of others of those parts whose direction is not very firmly fixed.

The first character of this active muscular retraction is the shortening of the muscle affected, and its tension, so that it feels like a tight cord stretched between its points of insertion. Thus retracted and tense, it gradually acquires a fibrous ligament-like texture (especially if the bones to which it is attached continue to grow while its development is arrested, as it always is while the retraction continues), and at length becomes hard, band-like, and extremely resisting; in all which characters it is sufficiently distinguished from a muscle *passively* retracted, in consequence of the approximation of its insertions; for in this there is no tension, its tissue is unresisting, and either retains its natural structure, or becomes weak, pale, and flabby, or at length is converted into fat.

The proof that this active muscular retraction is the prime agent in the production of certain deviations of the spine, rests on such evidence as the following. There are many examples of deformed fœtus, in which manifest alterations of the nervous centres and their envelopes are discernible, and in which, coexistent with these, is a series of deformities of various parts of the skeleton, directly proportioned to them both in number and in degree. And that these deformities are not the results of original anormal position of the parts affected is proved by the condition of the muscles, which are always hard, shortened, and tense, and which form, as it were, cords to the arcs or angles of the displaced parts. Besides, during extra-uterine life, and even up to adult age, cases often occur in which lateral deviations of the spine supervene immediately after cerebral and cerebro-spinal diseases, and are accompanied, like those in the fœtus, by a great number of other articular deformities, all evidently caused by the active shortening of retracted muscles. M. Guérin has collected a complete

series of cases of this kind, shewing every degree of spinal deformity dependent on disease of the brain or spinal cord, and, with each, correspondingly extensive deformities of the joints of other parts of the body. With these distortions, also, there are often numerous signs of previous or persistent disease of the nervous centres, such as convulsive actions of the face, irregularities of the features, squinting, inequality of the vision or the form of the two eyes, and often a want of symmetry or of equality of strength in the two sides of the body; all which, and yet more marked signs of such disease, are constantly found coincident with these deformities in the epileptic, paralytic, and similarly afflicted inhabitants of the Bicêtre, the Salpêtrière, &c. There are also very local affections of the cerebro-spinal system, which are followed by equally local deformities of the column; and in which the direction of the curvature is always as identical with that of the action of the perceptibly retracted muscles, as the direction of club-foot, torticollis, &c. is with that of the action of the muscles affected in each of them.

These evidences of the origin of the curvature are also the best means of forming a diagnosis of the nature of the case in which they are found, and, with an examination of the state of the muscles extended between the ends of the curve, will generally be sure guides to a proper judgment of the disease. The cases dependent on muscular retraction are indeed much more numerous than those due to any other condition. In many examples, however, they are not indicated by the signs of similar disorder in other muscles, or, though they have the same origin with them, yet coming on more slowly, they are supposed to depend on some other cause. And besides them, there are others dependent on the muscles, induced not by disease of the nervous centres, but by local affection of the muscles themselves, or of the nerves within them, such as the consequences of blows and falls on them, and of accidental diseases.

The influence of active muscular retraction in curved spines is not limited to those in which it is the prime agent. In all that arise from other causes, the secondary curves, by which the balance of the spine is restored, depend on it:

but this retraction, since it differs from the other both in its motive and its origin, may be called *secondary* active retraction.

Such is a sketch of M. Guerin's explanation of spinal curvatures: that, for many cases, it is correct, and that the observance of it in the treatment of such cases will be eminently beneficial, cannot be doubted. What is wanted now is a more complete and just comparison than is here given of the distinguishing characteristics, as well as of the several causes and modes of progress, of each of the diseases of which the curved spine is but the common result.

Recherches sur les Luxations Congenitales. Par le Dr. JULES GUERIN. Paris, 1841.

Researches on Congenital Luxations. By M. JULES GUERIN. Paris, 1841.

THIS is the 11th of M. Guerin's Memoirs, and is by far the best work that we have known him write. It is well stored with facts of pathology, and has scarcely any of the defects of style which so often prevail in his writings. It so well deserves an attentive perusal, that to those to whom it is not easily accessible, we are sure even a minute analysis, especially of its pathological portions, will be acceptable.

For congenital luxations, as for all other congenital articular deformities, M. Guerin assigns as the prime cause the active muscular spasmodic retraction described in the review of his Memoir on Curved Spines. Its existence as their cause is proved by evidence of the same kind as is also there alluded to, namely, their frequent coincidence, and exact correspondence, with congenital defects of the nervous system: a fact established chiefly by the dissection of numerous monstrous fœtus, and the frequent coincidence with them of the most striking signs of cerebral or spinal disease.

The varieties in direction and in the degree of each luxation depend on the different modes in which, in each, the muscular retraction is distributed. If all the chief muscles round a joint are affected the luxation may be *complete*: if the retraction be less active, or prevail in but a few muscles, or if, though energetic, it does not commence till a late period in foetal life, when the

joints are so far formed that the articular surfaces are held firmly together, then there may be only a *sub-luxation*; and lastly, *pseudo-luxations*, in which the limb, without being actually dislocated, has its direction permanently altered, are produced by a similar active retraction of muscles still less numerous or powerful.

These several degrees of congenital luxation may exist in any of the articulations, and even in any number of them at the same time. M. Guerin enumerates, as having occurred within his own observation, upwards of 30 different kinds in the joints of the spine, pelvis, clavicle, and extremities; but of these it is necessary to explain, that many are described from examples of more general monstrosity, in which, hitherto, the deformities of the joints have been almost overlooked.

The muscular retraction is not the sole and entire cause of the luxation; and, indeed, except when it takes place in the very young fœtus, it alone seldom produces more than the sub-luxation, which subsequent circumstances convert into a complete displacement. These subsequent circumstances are the arrest of development in the retracted muscle, its physiological contraction, and the influence of gravity; the same, that is, as are constantly observed operating to modify the characters of club-foot, curved spine, &c. One of the first effects of the muscular retraction is to prevent the proper development of the muscles it affects: and hence, the skeleton growing in the fœtus at a greater rate than they do, that which was at first but a partial is increased to a complete luxation, and often has, at the same time, its direction of displacement in some measure altered. The ordinary contraction of the retracted muscles operates in the same way; increasing and affecting the direction of the dislocation according to the direction in which they are inserted in the displaced bone, and which is, of course, often turned from that which is natural. Lastly, the weight of the superincumbent body, and of the dependent limb, have, after birth, a constant and obvious tendency to affect both the degree and the direction of the deformity; and the combined influence of all these circumstances may be sufficient at last to obliterate the chief peculiarities by

which the congenital nature of the affection, and its origin in muscular retraction, are indicated.

In the treatment of such cases, the broad practical rule to be followed is, that the muscles and the fibrous tissues which are felt beneath the skin hard, and strongly resisting the replacement of the parts, must be divided by subcutaneous incision, so as to remove those obstacles which are otherwise insuperable against the application of the mechanical means necessary for the reduction of the dislocated bone, and its maintenance in its restored position. But both in deciding upon and in pursuing any such plan of treatment, a number of circumstances connected with the morbid anatomy must be considered; and these M. Guerin describes according as they affect each of the chief tissues involved.

The muscles around a congenital luxation may be variously changed. Not only are those shortened in which the active retraction commenced, but all those which, by the dislocation, have had their insertions approximated, are also shortened and *passively* retracted, so as to present scarcely less obstacle to the reduction than those of the first set. But in general, these two conditions lead to different changes of structure. If the actively retracted muscles are, by any circumstance, prevented from drawing the bone as far from its position as they would, the constant traction to which they are thus subjected by their own efforts, as well as by the bone increasing after they have ceased to grow, induces in them the transformation into a tough fibrous structure. But this is rare: in general, their retraction is in part balanced by some other circumstance, (such as the tendency of gravity on the healthy action of the muscles,) and the fibrous degeneration is prevented. In the passively retracted muscles, on the contrary, which are thrown out of the power of acting by having their insertions approximated independently of their own action, the common change is that into a fatty tissue. And lastly, those muscles which have, in the altered position of the limb, to perform forcible voluntary movements, become simply hypertrophied. In short, the rule is this, muscles that are stretched become fibrous; those that are relaxed become weak, and then fatty; those that have

to be much exerted are hypertrophied. Of these, the first are the chief obstacles to reduction, and their subcutaneous division is indispensable; the second and the third will generally yield to extension without division: the actively retracted, whether fibrous or still muscular, must be divided; the passively retracted may not require more than stretching.

The arteries about a congenital luxation are always small and tortuous: there is, therefore, no fear of their being torn, in attempts at reduction. The veins do not become so tortuous, but are always large and numerous. The nerves always go in a straight course, and are often so much shortened as to constitute a considerable obstacle to the reduction, both by their resistance and by the pain caused by their extension. The cellular tissue is usually abundant, and loaded with fat; the skin elastic and exactly fitted to the subjacent parts; and neither of these are likely to form any obstacle to the reduction.

The ligaments and capsules of the joints may be either elongated or shortened. They may be shortened either by active retraction, or passively by the approximation of their insertions when the luxation has taken place; or, when the insertions are separated, they may yield, elongate, become thin and weak, and exactly adapt themselves to all the changes in form and size of the parts which they unite or enclose; a circumstance in which the original luxations may always be distinguished from those that result from external violence. There is a condition in the capsule of the hip-joint, when thus lengthened, which often exists and forms an inseparable obstacle to the reduction of the dislocation, namely, that as the head of the femur moves further from the acetabulum, the middle of the tube formed by the lengthened capsule is apt to become constricted, so as to produce a kind of hour-glass contraction.

In addition to these changes of form, the ligaments also, like the muscles, suffer alterations of structure. In the same circumstances under which the muscles become fibrous, that is, when they are kept tense and still, the ligaments become osseous: in those in which the former grow fatty, the latter become weak and thin. The rules, therefore, according to which the liga-

ments may be judged apt to resist the reduction or its maintenance, are in general the same as those relating to the muscles; taking care to consider the length of time during which the luxation has existed, as affording probable evidence of the state in which these and the other tissues are.

The head of the dislocated bone is commonly much deformed: but the changes presented, in different examples, are almost infinite. In the head of the femur (which is for many reasons the most important to be considered) there is generally a decrease of size, which extends also through the neck: its sphericity is lost, and generally its cartilage is almost or completely destroyed, becoming dry and greyish, and then gradually diminishing in thickness. When the head is so placed as to become continually pressed against the border of the cotyloid cavity, or against any firm surface, it commonly soon receives a corresponding impression; and a similar influence of local pressure often gives rise to changes in the relations of the head and neck to the shaft of the bone; the latter becoming shorter and more horizontal than is natural.

The articular cavities (such as the cotyloid, for example), in most cases undergo changes exactly proportioned in degree to those of the heads of bones displaced from them. They become smaller and more shallow, and are sometimes almost obliterated by the elevation of their bases, and the production of an excessive quantity of cellular and adipose tissue within them. These, at least, are the kind of changes that take place when the luxation is complete: the peculiarities that must appear when it is more or less incomplete may be easily supplied.

The equality of the changes that commonly take place in the head of the bone and the cavity, when they are separated, generally permits the reduction to be accomplished, but constitutes an important obstacle to its maintenance. But this equality does not exist when the head of the bone escaping from its capsule has come in contact with another osseous surface, so as to be constantly rubbed and pressed upon it; for then a new joint is always found between the two surfaces, and the dislocated head retains or acquires the same size as it would have

had in the healthy joint. And with regard to the bones and the articular cavities, in their relations to the reducibility of the dislocation, the same must be said as of the muscles and other tissues: that the earlier the attempt is made the greater is the probability of success; because so long as the luxation continues, so long are all the parts interested in it undergoing changes which gradually render them less capable of being moved, and less fit for mutual adaptation when they come together.

The alterations are not limited to the parts immediately adjacent to the luxation, but often extend over all the neighbouring part of the skeleton; but these, since they are not peculiar to the congenital affections, we may omit, and conclude with the enumeration which M. Guerin, in this excellent memoir, gives of the therapeutic means adapted to these cases, and which, he says, include—1. The preparative extension of the retracted muscles. 2. The subcutaneous section of those which the mechanical extension has not sufficiently elongated. 3. The continued extension of the retracted ligaments; and if this be not sufficient, their subcutaneous division. 4. The usual manœuvres for reduction adapted to each case. 5. A proper consecutive treatment to consolidate the reduction, and then, by passive motion, to complete the co-adaptation of the articular surfaces, and to restore the normal movements of the joint.

MEDICAL GAZETTE.

Friday, December 24, 1841.

"Licet omnibus, licet etiam mihi, dignitatem Artis Medice tueri; potestatis modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO

MEDICAL REFORM.—APOTHECARIES' ACT.

TWENTY-SIX years have elapsed since the Legislature first interfered effectually to place the education of the general practitioners of this country on a respectable footing. A few old stagers may be met with in London, and a few others may be found scattered

through the provinces, who were in practice prior to 1815, but the great bulk of those to whom the health of the community is entrusted at the present time, throughout England and Wales, look to the Act of 1815 as their MAGNA CHARTA. Under its provisions they were educated, examined, and ushered into professional existence. By its magical influence they claim, in our courts of law, remuneration for services performed; and by its penal clauses they are protected against the intrusion of unqualified persons. The importance of this legislative enactment, not only to the existing and embryo practitioners of the day, but to the community at large, out of whom the race of Doctors is to be kept up, entails upon us, as upon all who profess to discuss the subject of medical reform, the necessity of inquiring into the working of the Act, of pointing out its defects, and suggesting the appropriate remedies. The task which we thus impose upon ourselves is not one of the most inviting. Many who declaim most loudly against the abuses of the College of Physicians will hesitate, and demur, and complain, when reform is brought to their own doors; but whether the doctrines we propound be agreeable or otherwise, the subject must be probed to the bottom.

The origin of the Apothecaries' Act was recently laid before the readers of this journal in a lively epistle addressed to us by Dr. Kerrison*. Some of the leading apothecaries in London associated themselves, in 1812, to badger the Chancellor of the Exchequer on the subject of a tax on glass, then recently imposed. By degrees, they extended their views, and, like the sportsman who sets out to kill snipes and ends by bagging an elephant, ceased not from their labours until

they had achieved the celebrated Act, known to lawyers as the 55 George III., cap. 194, and to doctors "as the Apothecaries' Act." This Act was not passed without divers grave and cogent reasons. Prior to its passing, the education of the general practitioner was miserably deficient; and he had no adequate protection. "A herd of uneducated men," says Dr. Kerrison, "assumed our duties, without having qualified themselves for the task."

In 1825, the Apothecaries' Company, having had ten years' experience of the working of their Act, applied to Parliament for one of those essentials in legislature called an "Amendment" Act. A short Act of this nature, comprising many most useful provisions, was passed accordingly, but its span of existence was very brief. It was a temporary Act, and expired twelve months after birth. No attempt, that we know of, was ever made to renew it. At any rate, no *effectual* attempt of the kind was made, nor has any similar bill been again before Parliament. We have reason, however, to know, that this is not attributable to any wilful neglect on the part of the Apothecaries' Company. They would gladly have received a permanent Amendment Act, but the circumstances of the times, and the pressure of more important business, threw discouragement on any attempt to reopen partially the question of medical grievances. Suffice it to say, that the hour of medical reform had not yet arrived. Acknowledging, as we do, the great benefits which the Apothecaries' Act has conferred upon the profession, it were folly to shut our eyes to its defects. These we now proceed to enumerate, and, as briefly as may be, discuss.

1. The crying sin of the Apothecaries' Act is the well-known, oft-quoted, often praised, but oftener

* MED. GAZ., Oct. 15, 1841, vol. xxix. p. 122.

abused clause 15—enacting, that “no person shall be admitted to examination for a certificate to practise as an apothecary, *unless he shall have served an apprenticeship of not less than five years to an apothecary.*” In the Apothecaries’ Act Amendment Act (6th George IV. cap. 133), passed, as we have said, in July 1825, it was, among other things, provided, that apprentices to *surgeons* as well as to apothecaries, might be admitted to examination: but such is not the present law of the land. This, however, is a trifle. The real question at issue is, should there be any *apprenticeship* at all? Instruction in pharmacy there ought to be—there must be; but should this instruction be received after a certain deed of indenture, with its red wax and green ferret, its stamps, fees to solicitors, &c. &c., or may it not much more profitably, and far more economically, be received without the aid and assistance of the lawyer? Why should a deed of indenture be required when the youth is studying practical pharmacy, and be unnecessary when he studies the higher branches of his art? Excuses may be offered in support of the system of apprenticeship. The lawyers will uphold it, and doctors innumerable, for they profit by it; but, in truth, the system is bad, and must, ere long, give way to a better. Young men are, we know, encouraged to study during the five years of their municipal servitude, and some humane masters allow their apprentices to attend lectures during the term of apprenticeship; but these palliatives only shew the more clearly the actual amount of the evil.

Let us ask ourselves what is the actual amount of knowledge which the apprentice gains in that capacity. Is it more than a lad of common attainments can acquire in six months, or a quick lad in three? How is the remainder of his five years

passed? It may be, by a few, in useful study; but we fear that, in the majority of cases, that time is passed in tying up phials, weighing out powders, beating pill masses, preparing day by day sundry infusions of rose buds, orange chips, and senna leaves, to the manifest advantage of the master, but without the smallest perceptible amount of profit to the apprentice.

Let us see how the law works in another way. The apprentice fee is often a large one (two or three hundred pounds), and constitutes a very large portion of that sum which the parent is able to bestow on the professional advancement of his son. Were this source of expense reduced, he could afford to keep his son longer at school, to give him a better general education, to purchase for him more books, and to lengthen the period of his sojourn amidst hospitals and dissecting-rooms. Let us pry still deeper into the working of this clause of the Apothecaries’ Act. A young man applies for examination who has been bred in a colony where the law of apprenticeship exists not. He applies in vain. Clause No. 15 is imperative. No apprenticeship no examination! A well-educated but unsuccessful physician is content to pocket his diploma and his dignity, and to enter the arena of general practice. An insuperable bar stands between him and the object of his wishes. Be his education ever so good, his skill ever so great, he cannot be examined for his license to practise as an apothecary—because, he has not been an apprentice. We hope and trust that the Legislature will, ere long, open their eyes to the evils of the apprenticeship system as applied to medicine; that they will expunge this part of clause 15 from the Act, and simply direct “that no person shall in future be admitted to examination for a license to practise as an apothecary, unless he shall produce testimonials, to

the satisfaction of the said court of examiners, of having diligently attended practical pharmacy in the shop of some apothecary, chemist, or druggist, and acquired competent knowledge thereof." It would then be for the court of examiners to determine what should be the duration of such elementary instruction in pharmacy.

2. The second crying sin of the Apothecaries' Act is, that it offers no exemption from its most stringent provisions to the surgeons of our army and navy. We put this grievance thus prominently forward, because it early pressed itself on the notice of the Apothecaries' Company, and because the relief of it constituted one of the most important features of the Amendment Act of 1825. By one of the wholesome provisions of that short Act, "surgeons in the navy, and surgeons and apothecaries in the army, were permitted to practise as apothecaries without further examination." In the brief interval that elapsed between the passing and expiring of that Act, several army and navy surgeons availed themselves of the relief thus afforded, and became legally qualified practitioners; but all who, since 1827, have practised on the strength of their military diploma, have been indebted for their tranquillity to the good sense and moderation of the Apothecaries' Company, the guardians of the Act. The intentions of the Legislature in their favour having been so clearly shewn in the short-lived Act of 1825, the Company would never call forth, on such occasions, the stern rigour of the law. Indeed we willingly concede to the Apothecaries' Company on this, as on all other occasions, a praiseworthy desire to carry out the provisions of the Act, in the most lenient manner, consistent with a faithful discharge of their prescribed duties. Their leniency, however, does not give to army and navy surgeons practising in civil life any legal rights; and we doubt

very much whether any practitioner so circumstanced could recover, in a court of law, the amount of a disputed bill.

3. The third defect of the Apothecaries' Act is the mode of conducting the examination. As the law stands, the examiners must be members of the Society of Apothecaries; and it is doubtful whether, under the provisions of the Act, the examination can legally extend to surgery and midwifery; at any rate a question might arise whether a candidate could legally be rejected for deficient knowledge in those branches of his profession. The construction of the Board of Examiners, then, is faulty, and requires reform. The method of conducting the examination of young men is equally open to useful revision. Lastly, the subjects of examination should be distinctly specified. Some of these difficulties were foreseen when the Act first passed; and but for the culpable supineness of the chartered Colleges at that period, would never have existed. These evils should, however, now be corrected, and a better order of things introduced.

The act provides nominally for the education of *apothecaries*, but really for that of the *general practitioners* throughout the kingdom. As they are intended to practise every branch of the profession, so should their examination be confided, not to apothecaries only, but to a board consisting of an equal number of physicians, surgeons, apothecaries, and accoucheurs. Those who choose may, of course, superadd to this diploma that higher one which the College of Surgeons furnishes; and such men will, as at present, find their reward in the increased estimation in which the public will then hold them. The Act should further direct a preliminary or matriculation examination. As the law now stands, a young man may come up for examination, and be rejected for deficiencies (in Latin, &c.)

which might just as readily have been detected three years before. Thus would the young man have been spared a profitless waste of time, and his parents the outlay of some hundred pounds. No one, then, should be allowed to enter on a course of professional education until a preliminary examination shall have tested his knowledge of Latin and of practical pharmacy. The Apothecaries' Company have, in a very praiseworthy manner, attempted to meet this difficulty, by affording to students the *option* of a preliminary examination in Latin; but no option should, in fact, be permitted.

4. While the hands of the Apothecaries' Company are too much tied up, on the one hand, by the Act of 1815, so, on the other, is too much latitude, on one point at least, allowed them. We allude to the almost unlimited power which it gives them of creating medical schools in the provinces. We are no advocates for an exclusively metropolitan education; but the extension of medical schools to every town in England which can muster a corps of lecturers, is a measure of too great national importance to be entrusted to the Apothecaries' Company. It gives to that body, in point of fact, the power of creating in all parts of England little Universities. We know that some very highly talented persons foresee, in this system, anything but improvement to the medical profession. We will not, however, now argue that question, but we are sure that some fundamental error exists in that statute which confers powers of such vast extent and importance on the Apothecaries' Company of London. We are satisfied that no school should be licensed in the provinces, without the sanction of all the chartered Colleges in the kingdom.

5. The fifth defect of the Apothecaries' Act is, that it considers England and Wales as a separate and independent portion of the empire, and makes

no provision whatever for the case of medical practitioners who, having been *born* and educated in Scotland, or Ireland, and found (after due examination by the constituted authorities of those countries) competent to practise, desire to give the benefit of their services to England. Under the Act of 1815, such men must submit to a second examination in London; but if they have never been apprenticed to an apothecary, (and what is an apothecary in Scotland?) even that alternative, painful as it is, is denied them. It is obvious that matters cannot long remain on such an unstable footing. The indefatigable zeal of the 53 M.P.'s of Scotland, and of the 105 M.P.'s of Ireland, will never suffer this grievance to continue unredressed. We know that the representations made by the former have been most energetic, such as no ministry can long withstand. We have reason, too, to believe, that the Apothecaries' Company have never interposed any obstacle in the way of a temperate reform of this portion of the Act. It were useless, however, to slur over the difficulties that here present themselves. The question of reciprocity is, in truth, the most ticklish in the entire matter of medical reform; and the sooner we buckle on our armour, and discuss the subject with our neighbours on the other side of the Tweed and Irish Channel, the better will it be for all parties. Probably, the safest way will be to concede at once, that *natives* of Scotland and Ireland, educated and licensed by the authorities of those countries, shall be admitted in England, *ad eundem*, on payment of the usual fees.

6. The sixth defect of the Apothecaries' Act is, that it throws on the Apothecaries' Company the irksome onus of prosecuting all those persons throughout England and Wales who practise without their license. The practical working of this portion of the Act is bad in a variety of ways. As the

Apothecaries' Company have a pecuniary interest in increasing the number of their licentiates, so every prosecution by them bears the aspect of an attempt to fill their own coffers by a harsh exercise of power. As no separate fund is provided for defraying the cost of such prosecutions, the expenses fall on the student's fee-fund, which ought rather to be appropriated to the endowment of prizes, or the formation of pharmaceutical and botanical museums. Such a system, lastly, opens the door to innumerable complaints of injustice, and partiality in the prosecution of offenders. We see plainly enough the evils of the present system, but we are not sufficiently conversant with the law to be prepared to suggest the appropriate remedy. It seems to us, however, abundantly clear, that the prosecution of unlicensed practitioners cannot naturally devolve upon medical men. The crime committed is against the state. The parties who suffer are, first, the government, who are defrauded of their fees on the diploma, and who thus suffer in purse; and secondly, the Queen's unhappy lieges, who suffer in person. The onus of prosecution, therefore, should fall on the Attorney-General, or on the public—any where, certainly, rather than on a body of medical men.

These are the suggestions which we would throw out for the reform of the Apothecaries' Act; and here we shall stop for the present. Considering that eight years have elapsed since the question of medical reform began to be agitated, it may appear presumptuous in us to say so, nevertheless we feel persuaded, that with an Executive seriously bent upon settling the business, eight months need not elapse without the consummation of a series of measures which would redress every tangible grievance in the profession of physic throughout this country at this time. With changes in the circumstances of the times, new questions will arise, and

new grievances claim consideration. We think, however, we have shown with how much ease a machinery might be put in motion calculated to meet such growing difficulties. We shall now anxiously wait for the opening of the next session of parliament, trusting that no time will then be lost in preparations for the final settlement of the question of medical reform.

KING'S COLLEGE HOSPITAL.

CASES OF DISEASED HEART, WITH REGURGITATION THROUGH THE AORTIC ORIFICE.

CLINICAL REMARKS BY DR. BUDD.

JOHN COYNE, æt. 44, hawker, of temperate habits, has had three attacks of rheumatic fever.

The first attack, which happened when he was 15 years of age, was slight, and did not confine him to bed long.

The second attack occurred four years afterwards, and was much more severe, keeping him in bed two months. His breath was as good after this attack as before.

The third and last attack took place twelve years ago, and was still more severe than the preceding, confining him to bed three months. In this last attack, his chest was affected: he had pain in the front part of the chest, with great oppression of breathing.

He has been subject to palpitation as long as he can recollect; but, since the last attack of rheumatism, the palpitation has become more troublesome. From the same epoch, he has been frequently troubled with cough, attended with expectoration and difficulty of breathing, which has often prevented him from working.

On account of these ailments, he has been many times bled, and always with relief. Has never had any oedema of the legs.

At the time of his admission to the hospital, June 5th, he was thin, and his complexion pale and sallow. He complained of cough, palpitation, and difficulty of breathing on exertion.

The chest was well formed. The pulsation of the heart was distinctly seen, in the interval between the fifth and sixth ribs. The impulse was powerful and heaving; and attended, at this point, with a very palpable thrill ("fremissement cataire").

The movements of the heart were irregular. At the apex, the systole was attended by a very loud, harsh *bruit*, of a somewhat musical character. No diastolic sound could be heard there.

Towards the base, in addition to the systolic *bruit*, a feeble bellows-sound was heard attending the diastole.

On applying the hand along the right edge of the sternum, from the third rib to the clavicle, a vibration was felt, much stronger than at the point of the heart. In the same situation, a very loud bruit was heard attending the systole; rougher in character, and not so musical, as at the apex.

This systolic *bruit* could be heard all over the chest, in front and behind. It was loudest at the part specified; namely, along the right edge of the sternum, from the third rib to the clavicle; but it was very loud and rough in the right supra-spinal fossa, and every where louder on the right side of the chest behind, than on the left.

All the arteries were seen pulsating. The systolic bruit was audible over the carotid and subclavian arteries; but the diastolic, only about the base of the heart.

There was very extensive dulness on percussion over the præcordia; but percussion was of natural resonance, over the upper part of the chest, in front. No unusual dulness on the right side of the sternum, where the vibration was felt.

Slight dilatation of the jugulars, on both sides of the neck; but no œdema of the legs. Pulse 110, tolerably full.

There was considerable feverishness, with hot skin, and much thirst; and he slept badly.

He made no complaint of pain. Had no difficulty of swallowing; no hoarseness; nor any signs of a tumor in the upper part of the chest.

He was bled to 3x. The bleeding produced considerable relief; but the blood was not buffed or cupped. After the bleeding, the thrill was evidently less.

He was kept nearly all his time in bed; and on milk diet. At first, he took Tinct. Digitalis; but, after some time, this was exchanged for a saline draught, containing Nitre and Hyoscyamus.

No evident change took place until the 20th of July. During all this interval there was a good deal of irritative fever; heat of skin; thirst; very little appetite; a furred tongue; and the pulse usually ranging from 108 to 114.

He made no complaint of pain, and had no difficulty of breathing. The respirations were never quicker than natural; and, on one occasion, were as low as 12 a minute.

He had occasional cough; sometimes dry, at other times attended with expectoration of a little catarrhal mucus.

On the 20th of July, there was slight œdema of the legs, after he had sat up for some hours; but this disappeared on his lying down, and never again recurred.

The fever continued, and he evidently lost

flesh. The thrill felt at the point of the heart became perceptibly less; and the systolic *bruit* heard there lost the *musical* character it had at the time of his admission. The thrill felt along the right edge of the sternum, also became less; but all the other symptoms continued just the same: the pulse, generally above 100; tolerably full; regular. The respirations, commonly about 18 a minute. No irregularity of the pulse was noticed after the bleeding.

On the morning of October 11, he had a sudden attack of dyspnoea, in which he was almost suffocated. This passed off in a few minutes; and when I saw him, some hours afterwards, the breathing was tranquil, the respirations 18 a minute.

On the 15th, he had four or five similar attacks, each lasting about two minutes. In the morning of the 16th, he had another attack of the same kind, in which he expired.

The body was examined 9 hours after death.

On opening the chest, the heart was found lying transversely, and uncovered by lung, in a space larger than both palms.

The heart was of an enormous size—three times as large as the fist. On its surface were many white spots. There was, also, a small band of adhesion between the pericardium and the heart, on its anterior surface, near the apex; and thread-like adhesions about its base, between the vessels. These lesions were all of old date.

The increased size of the heart was mainly owing to dilatation and hypertrophy of the left ventricle, whose parietes were more than an inch and a half in thickness.

The right ventricle was little, if at all, dilated.

The right valves, perfectly healthy.

The mitral valves were much thickened; but their movements were free, and they must have completely closed the orifice. There was no ossification of these valves, and no vegetations on them; but there were small warty growths at each of their points of junction, on their auricular aspect. There were also minute warty growths on the lining membrane of the auricle, contiguous with the smaller of the mitral valves.

The aortic valves were much altered by disease. Two of them shortened, and very much thickened, almost converted into a fleshy mass, but easily moveable, and having no ossific plates. The third valve (the posterior) was ossified, and perfectly immoveable. It was, as it were, transfixed by a spicula of bony matter, half an inch in length, which was exposed on the arterial aspect of the valve, and in the ventricle.

For a space of two inches square, adjacent to the semilunar valve, the lining membrane of the ventricle was roughened by warty vegetations. No such vegetations existed in any other part of the cavity.

The aorta was perfectly supple and free from disease, quite up to the diseased valves. It continued so to the origin of the left subclavian, where there was a small ossific plate.

The right carotid and subclavian, and the innominate, also free from disease. The left healthy, except at the point specified.

The lungs free from adhesions, except at one or two points in the upper lobes. They were not much congested. In the upper lobe of each, there were some very small chalky concretions. The bronchial glands were large and soft.

The brain and its membranes, perfectly healthy. Nothing worthy of note in the abdominal viscera. The intestines, throughout their entire length, pale, somewhat contracted, healthy.

In his remarks on this case, Dr. Budd observed, there can be little doubt that in Coyne the disease of the heart originated in an attack of rheumatic fever.

He had three attacks of this disease, at the ages of 15, 19, and 32 years respectively: offering an illustration of what we every day see proof; namely, the great tendency which rheumatic fever has to recur, even after long intervals of apparent health, in persons who have once had an attack of it.

In Coyne, the first attack was less severe than the second; and the second than the third. This is contrary to the general rule. In most instances, the first attack of rheumatic fever is more severe and protracted, than subsequent ones.

The long duration of the last attack (which confined him to bed three months) was most probably owing to the occurrence of pericarditis and rheumatic inflammation of the heart.

The white spots and adhesions of the pericardium, and the diseased state of the valves, were the consequences of rheumatic inflammation of those textures.

It is very common, in rheumatic pericarditis, to find pleurisy of the left side; but there were no adhesions in the lower part of the left lung in Coyne, to show that such complication had existed.

When Coyne was admitted into the hospital, it was evident, from the great extent of dulness at the precordia, that the heart was much enlarged; and from the powerful and heaving impulse, that there was hypertrophy of the left ventricle.

We inferred also, from the visible pulsation of the arteries, and from the diastolic bellows-sound, heard about the base of the heart, that the aortic valves were diseased, and admitted regurgitation.

The loud systolic bruit heard at the apex might also arise from such disease of the aortic valves. The strong vibration felt by the hand showed that there was some ossification.

So far, our predictions were realized. But we were led to imagine, from the strong vibration felt along the right edge of the sternum, from the third rib to the clavicle, and from the loudness and roughness of the systolic bruit heard there and over the arteries of the neck, that there were ossific plates on the inner surface of the ascending aorta. In this, however, we were mistaken. This portion of the artery was quite healthy.

The case of Coyne shows us how perfectly a vibration, originating at the aortic valves, and causing a systolic bruit, may be propagated along the arteries.

The most singular feature of the case was the almost entire freedom from dyspnoea and dropsy—symptoms of *obstacle* to the circulation through the left side of the heart.

This is accounted for by the enormous hypertrophy of the left ventricle, which was strong enough to overcome the impediment offered by the diseased valves. The hypertrophy of the muscular tissue in this instance, as in most others, served a beneficial purpose. If it had not taken place to such extent, the obstacle at the aortic orifice would have caused dilatation of all the cavities behind it, and the patient would have died, perhaps years before, of obstructed circulation and dropsy.

The vegetations found on the lining membrane of the left auricle and ventricle, were only in patches contiguous with the valves. This, among other proofs, seems to show that in rheumatic fever, the inflammation of the lining membrane of the heart originates in the valves.

It is worthy of remark, that the aorta, and the valves on the right side of the heart, were perfectly healthy.

Another circumstance worthy of note, is the prolonged irritative fever, which there was nothing but the diseased valves to account for.

The point most instructive in the treatment, was the great relief procured, soon after his admission, by bleeding. It removed the cough and shortness of breath, which he had on admission, and it made the pulse regular.

The small chalky bodies in the upper lobes of both lungs, were the consequences of tubercles. They were in Coyne unusually numerous. They existed only in the upper lobes. There were no miliary or crude tubercles in the lungs.

In another patient, who died in the hospital, during the same week, of phthisis, and in whom the lungs were studded with miliary tubercles, a few small chalky concretions were found in the upper part of both lungs.

The existence of these bodies in the upper lobes only, and their frequent association with tubercles, leave no doubt that they are

the result of tubercles. The more liquid part of the tubercle becomes absorbed, and the earthy matter is left, in the form of a calcareous concretion.

The opinion is maintained by M. Louis, that a prolonged state of feverishness disposes to the development of tubercles. In Coyne, although there were these evidences of the former existence of tubercles, no fresh tubercles were deposited after a considerable degree of fever had been kept up for more than four months, certainly, and probably much longer. It would seem from this, that something more special is required for the development of tubercle.

Dr. Budd remarked, that the interest of the preceding case would be enhanced by comparing it with the case of a man, whom many of the students would recollect, and who lay in the very bed subsequently occupied by Coyne.

The following are the notes of his case:—

William Thomas, æt. 36, has followed various occupations, but of late that of journeyman gardener at Kingston. Was perfectly healthy; could walk fifty miles in a day, until last Christmas, when he became affected with shortness of breath and cough. These symptoms came on very gradually, and at the commencement, were not attended with any pain of the chest. There was very little expectoration with the cough.

The difficulty of breathing and cough continued, and early in March his legs began to swell. On the 18th of March he came to London, and entered Bartholomew's Hospital, where he remained till the middle of April. On the 20th of April, about a week after he left St. Bartholomew's, he became an inmate of King's College Hospital. He then complained of palpitation, some pain across the lower end of the sternum, shortness of breath, and cough.

His countenance was pale, and complexion clear. His limbs were tolerably muscular, and he told us that he had not wasted much. There was some œdema of the legs.

The breathing was very difficult, and he was unable to lie on his back or left side: any attempt to do so brought on cough. The cough was attended by expectoration of a frothy fluid resembling saliva; and occurred in paroxysms, in some of which the face became much congested. The pulse was 96, regular, and tolerably full. The tongue was pale, and moist, and clean; but he was thirsty, and had very little appetite. The urine, acid, high-coloured, and depositing an abundant brick-coloured sediment.

The impulse of the heart was moderate, but felt over a large space. It was not attended by any perceptible vibration. The normal sounds of the heart were replaced by a double bellows-sound: the *systolic*, faint; the *diastolic*, rough and prolonged. These

sounds could be heard all over the precordia. The diastolic was loudest about the cartilage of the left fourth rib. The double bellows-sound was also very distinct, and rough in character, over the carotid and subclavian arteries; and the *systolic* was louder there than over the heart. There was visible pulsation of the arteries of the neck and of the arms.

Auscultation of the lungs revealed the existence of increased secretion from the bronchial tubes: viz. large crepitation on the lower part of both sides behind; rhoncus and sibilus above. The respiratory murmur, mixed with sibilus, could be heard over great part of the precordia.

He told us, that he had never had rheumatic fever; and the only cause he could assign for his malady was low living. His master, at Kingston, from religious motives, abstained from animal food, and persuaded Thomas to do the same. The symptoms commenced about a month after he entered on this regimen.

He was ordered a diuretic mixture, and cupping to six ounces over the heart.

The cupping produced no relief; and the symptoms underwent little change until the 11th of May, when he had a sudden attack of dyspnœa, which lasted two or three hours: it was not attended by any sickness or faintness.

From this time he had, at irregular intervals, several shorter paroxysms of the same kind, and died in one of them on the 24th of May.

From his admission to the hospital to his death there was little change in the symptoms. The cough and expectoration continued of the same character; and the results of auscultation of the heart and arteries were constantly the same.

The pulse ranged from 90 to 100; it was tolerably full, and, whenever examined, regular. The difficulty of breathing continued, and to the last he was unable to lie on his left side or back. A week or two before his death the dyspnœa increased; and there was dulness on percussion, and absence of the respiratory murmur, on the lower part of the right chest behind—symptoms which depended, as dissection proved, on effusion of fluid into the cavity of the right pleura.

He continually complained of thirst; and the urine always deposited lithates, which, for some time before his death, were pinkish.

He took, in turn, all the ordinary combinations of diuretic medicines; but the œdema of his legs never quite disappeared.

On dissection we found an effusion of transparent serum in the right pleura.

The heart (which Dr. Budd exhibited to the class) was more than half as large again as the fist.

The pericardium was perfectly healthy,

and presented no white spots or adhesions ; no traces whatever of former inflammation.

The increased size of the heart resulted from dilatation of the cavities, especially that of the left ventricle.

All the valves were perfectly healthy, except the middle aortic valve (the one between the coronary arteries), which had been ruptured near its point of junction with the posterior valve, and was hanging as a strip, about two inches in length, into the ventricle.

There was some appearance of ulceration at the angle where this rupture had taken place.

The other two aortic valves were perfectly healthy, and, if any thing, thinner and more delicate in their texture than natural.

The aorta was perfectly healthy as far as the origin of the innominate ; beyond this, its inner surface presented some yellowish spots. There were also some yellow spots in the innominate. None in the left carotid and subclavian.

There was very little, if any, hypertrophy of the muscular substance of the heart.

REMARKS.—Dr. Budd observed—In this case, as in the case of Coyne, we inferred during life that there was disease of the aortic valves, admitting of regurgitation, from the visible pulsation of the arteries, and the diastolic bellows sound, heard loudest about the base of the heart. This disease of the aortic valves was sufficient to account also for the systolic sound.

The fulness and regularity of the pulse showed that the orifice was not much narrowed. Whenever there is much *narrowing*, either of the aortic or mitral orifice, the pulse is, of necessity, small, and is generally intermittent or irregular.

The fact, that the impulse was moderate but felt over a large space, indicated that the heart was large, but that there was no hypertrophy, or increased strength, of the left ventricle.

The points, then, that could be made out during the life-time of the patient were, that there was disease of the aortic valves admitting regurgitation ; that this disease was not such as to produce much permanent narrowing of the orifice ; that the heart was enlarged ; and that there was not much hypertrophy of the left ventricle.

The dissection disclosed one of the most interesting changes we can conceive—a rupture of one of the aortic valves, while all the other valves and textures about the heart were perfectly healthy. It was a repetition of the experiment made a few years ago by the committee appointed to investigate the cause of the sounds of the heart—of the experiment in which one of aortic valves was hooked back.

In Thomas, we had full leisure to investigate the effects of this change. They were,

visible pulsation of the arteries, and a double bellows-sound attending the movements of the heart, together with dilatation of the heart, difficulty of breathing, and dropsy ; in fact, all the signs of mechanical obstacle to the circulation of the blood through the left side of the heart.

All these symptoms must, in Thomas, have resulted from the rupture of the aortic valve, because there was no other change, either in the heart or arteries, to explain them.

In Thomas, there was much greater dyspnoea, and greater distension of the venous system, and earlier dropsy, than in Coyne. This difference can hardly be explained by the degree of obstacle to the circulation, which the disease at the aortic orifice produced. This was apparently as great in Coyne, as in Thomas.

The cause of this difference in the symptoms was most probably the great hypertrophy of the left ventricle in the one case, and the absence of hypertrophy in the other. In Coyne, the increased strength of the ventricle was sufficient, or nearly sufficient, to overcome the impediment which the diseased valves offered to the course of the blood ; and consequently there were no symptoms, or but slight symptoms, of obstacle to the circulation through the left side of the heart. The increased strength of the ventricle compensated for the obstacle.

In Thomas, on the contrary, no such compensation existed ; and the consequences were, constant dyspnoea, with increased secretion from the bronchial tubes, and dropsy. The contrast shows, in a striking manner, the good effects of hypertrophy of the muscular substance of the heart, when this hypertrophy results from impediment to the onward course of the blood.

The absence of hypertrophy, in Thomas, was owing perhaps to the low diet to which he had been subjected, and the consequent impoverished state of his blood.

Reference to these same circumstances will also explain the different effects of loss of blood in the two cases. In Coyne, the bleeding was followed by great and immediate relief ; in Thomas, it was certainly productive of no benefit, but, on the contrary, aggravated, in all probability, the symptoms.

Dr. Budd remarked, that we should be very cautious in bleeding, or adopting lowering measures, in cases of diseased heart, where the blood is poor, and the tissues soft and flabby, and where the symptoms indicate dilatation rather than hypertrophy. Measures of this kind can hardly fail, by weakening the heart, to add to the distress of the patient. In such cases, preparations of iron—especially the muriated tincture of iron, which acts as a diuretic—and nourishing diet,

taken in small quantities at a time, are the best remedies.

In cases, on the contrary, where the impulse of the heart is powerful and heaving, and the muscular system well nourished, greater relief will often be procured by moderate bleeding, and by hydragogue purgatives, than by any other remedies.

The distress and paroxysm of coughing, which Thomas invariably experienced, on any attempt to lie on the left side or back, depended probably on the loose end of the ruptured valve blocking up the orifice, when he was in either of those postures.

Both Coyne and Thomas had, some time before death, *sudden* fits of dyspnoea of precisely the same character; and the immediate cause of death in both was a paroxysm of this kind. These sudden paroxysms were perhaps owing to mechanical closure of the aortic orifice.

In Thomas, it would seem that the disease was the result of accident; yet the symptoms were stated to have come on gradually. They certainly gradually increased, and had lasted nearly three months, before the occurrence of dropsy. The gradual increase of the symptoms, while the primary disease remained, in all probability, nearly the same, was most likely owing to progressive dilatation of the cavities of the heart. Dilatation of the left ventricle, for instance, is, *in itself*, a cause of obstacle; for it is clear, from mechanical considerations, that the larger the cavity the greater the muscular power requisite to propel a given quantity of blood with the same force. The occurrence, or increase, of dilatation must then add to the effects of any obstacle that may previously exist.

It appears clearly, from these cases, that disease of the aortic valves, such as to admit regurgitation, gives rise to a constant visible pulsation of the arterics, and to a double bellows-sound, of which the *diastolic* is loudest about the base of the heart. This double bellows-sound may be propagated readily along the arteries, and may be heard distinctly over those of the neck.

The visible pulsation of the arteries, in all conditions of the circulation, is, from its obvious character, an extremely valuable sign of regurgitation through the aortic orifice. For a knowledge of this connection we are, I believe, indebted to the late Dr. Hope.

In conclusion, Dr. Budd observed, I must beg you to remark the lamentable impotence of all medical treatment to remedy lesions such as those found after death in these two cases. We are endowed with no means to repair such breaches of structure as that found in the case of Thomas, or to restore to their natural form and appliances valves so altered by disease as the aortic

valves in Coyne; and yet, these alterations of structure subsisting, the ulterior changes in the structure and functions of the heart, which necessarily result from the constant mechanical impediment they offer, must surely and inevitably progress towards their fatal issue. How much, then, does the utter hopelessness of these cases enhance the interest and importance of diseases, in which, as in rheumatic fever, for example, alterations of this kind often have their first origin, and are comparatively much more within the power of remedy.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

December 4, 1841.

DR. WILLIAMS, PRESIDENT, IN THE CHAIR.

On the Relation between the Symmetry and the Diseases of the Body. By J. PAGET, Esq., Demonstrator of Morbid Anatomy at St. Bartholomew's Hospital, &c.

THE author related several cases in which morbid changes, exactly similar in nature and extent, were found on corresponding spots on the opposite side of the body; and argues from these, and from the more numerous instances in which there exists a general similarity in the signs and results of disease on the two sides of the body, or on corresponding spots in each, that the law of constitutional diseases is, to affect both sides of the body equally and simultaneously. He urges, that although the exceptions to this law are more numerous than the observances of it, yet since each of the latter involves a coincidence of two very delicate processes, such as could not often happen by chance, a few facts affirmative of the law should have more force than a great number which seem to negative it.

In explanation of symmetrical diseases he supposes that some depend on a disorder of the blood or nervous system, affecting the nutrition of every part of the body; others, on such a disorder of one or the other, as affects their relation to the nutrition of only one tissue or pair of organs, or of only symmetrical spots previously altered in a tissue; and that others, which are connected with metastasis, depend on a reflection of anormal nervous excitement at the nervous centres from one set of nerves to those of the corresponding part on the other side of the body.

On Diseases which affect corresponding Parts of the Body in a Symmetrical Manner. By WILLIAM BUDD, M.D., Bristol. [Communicated by Dr. BUDD.]

The writer begins by stating that his attention was first called to this subject by several cases of rheumatic fever, in which, as

the disease passed into a chronic state, corresponding parts of the limbs became affected in *pairs*, in such a manner that the affection of the limbs of one side repeated itself in those of the other, not merely with a general correspondence of situation, but joint for joint, bursa for bursa, sheath for sheath.

These facts occurred to the writer in 1836, at the Middlesex Hospital. Soon after this, having seen M. Bizot's announcement that the atheromatous deposits of arteries are likewise distributed in corresponding arteries in a perfectly symmetrical manner, Dr. Budd began to look out for instances of the same in other diseases. These soon came before him in great number and variety; and in the course of a short time he was enabled to ascertain that in most diseases of the skin; in many diseases of the joints; in the disease of the arteries just alluded to; in the diseases of the eyes, ears, and many other structures; in fact, that in a great number and variety of diseases of constitutional origin, the lesions peculiar to each affect corresponding parts of the body with alterations, whose likeness in form and situation is often of the most singular exactness.

Particular examples of this, taken from a considerable variety of diseases, were exhibited in a series of casts and drawings, laid before the Society in illustration of this paper.

As this fact repeats itself in diseases differing so widely in many other important respects, and especially in the aspect of their lesions, and the nature of the textures involved, the writer infers that it is a fact of high order, and one which is justly entitled to the rank of a *law*.

In order to arrive at the true interpretation of this law, he proceeds to inquire at great length into the nature of the diseases in which it occurs.

The result of this inquiry leads him to divide all diseases of the kind into two principal groups, 1st, Diseases in which the morbid changes depend on fault originating in the solids affected; and 2d. Those in which the lesions originate in morbid states of the blood.

As an extreme case and a fit type of changes originating in the former way, Dr. Budd refers to instances of monstrosity, affecting corresponding parts of the body with exactly similar deformities; and many other examples of the same fact, in other forms, are also adduced. The second group is again divided into two others.

The first of these includes diseases in which the morbid state of the blood probably consists in deficiency of natural ingredients: the second, those in which it depends on the presence of morbid matters of special kind in that fluid.

As a distinct example of the former, Dr. Budd cites those cases in which ulceration of the cornea comes on in man and animals fed on substances deficient in nitrogen—ulceration, which almost always affects both eyes in exactly similar manner. The disease named rickets is also mentioned as being probably another case in point.

The second group—that in which the morbid state of the blood depends on the presence of foreign matters of *special* kind in that fluid—includes a much larger number of diseases than either of the others. It is this group which has more especially engaged the writer's attention, and it is made the special subject of the subsequent remarks.

Having entered into a great variety of considerations, in order to prove that all the forms of disease, of which examples are laid before the Society, fall under this description—namely, that all these are diseases which depend on the presence of foreign matters of special kind in the blood, he then proceeds one step farther, and endeavours to show, by facts and inferences of various kind, that in each case the morbid matter peculiar to the disease which may be the object of regard is detained in the seat of each individual lesion, and is there held in affinity with the part affected; this being, in fact, the essential condition of the origin of such lesion.

A case of eruption, caused by the internal use of iodide of potassium, and distributed over corresponding parts of the body in patches of exactly similar pattern; the palsy of the wrists, affecting the same group of muscles in each fore-arm, which is caused by the presence and local action of lead absorbed into the system; the detention of madder in the bones, tingeing corresponding bones with the same shade and arrangement of colour, while all other textures are entirely free from it, are cases cited as types of the group, and as offering distinct illustrations of both points of the theory maintained by the writer.

In relation to this group, therefore, the law now takes a more specific form, and requires a distinct interpretation. For, according to these views, it is clear that the agency which here determines the lesions to assume a symmetrical arrangement, is, in fact, *that* which determines a given morbid matter in the blood to fix on one particular part in preference to any other of the same structure; so that a given part once affected, the morbid matter not yet locally engaged, is not free to fix on this or that part, however like to the first in outward appearance, but is drawn to that very part, on the opposite side of the body, which is symmetrical with, or analogous to, the first.

And this agency the writer conceives to

be the same, in virtue of which, in the ordinary exercise of assimilation, corresponding parts of the body separate from the blood, and appropriate *matters of identical composition and in equal measure*; thus maintaining through life their original likeness in form, composition, and structure.

The writer then remarks, that under this view, the morbid matter of these diseases may be regarded as tests or measures of structural likeness; and calls the attention of the Society to many cases, exhibited in the casts and drawings on the table, in which lesions exactly alike in form and nature, repeated themselves, not only in the same situations in the limbs of the two sides, but *also in corresponding parts of the upper and lower extremities*; thus giving, in deviations from the normal state, much curious and novel illustration of those laws of symmetry and organic analogy, governing the evolution of opposite regions of the frame, which anatomists have already established on other grounds.

Having fully proved the very general prevalence of a law of symmetry in disease, the writer next considers the causes which may interfere with its manifestation. Three very influential causes of this kind are recognised. These are—febrile movement; local injury, or any other cause materially affecting the organic state of a single part, and thereby determining morbid matters in the blood to that part in preference to others; and, lastly, circumstances having presumed relation to the *amount* of any given morbid matter present in the system.

The disturbing influence of these several conditions is illustrated by numerous examples; and it is then remarked, that in effect of these causes of interference, which are so frequently in action, and perhaps of many others less distinct to apprehension, numerous exceptions to the law of symmetry *necessarily* occur, even in those diseases the most remarkable in general for the constancy and perfectness of its manifestation.

In consideration of the powerful disturbing influence of the condition first mentioned, and by observation of particular cases, the writer has been led to adopt the following proposition:—

That in diseases whose lesions have a tendency to symmetrical arrangement, the symmetry will be more perfect as the disease is more chronic in its progress; more free from febrile movement and local vascular excitement; and, in its course and character, more nearly resembles the ordinary processes of assimilation. And in this the writer finds a very remarkable confirmation of the particular view he has taken of the nature of the agencies concerned, in determining the symmetrical arrangement of the lesion in these cases.

The source, chemical character, and specific nature, of the morbid matters of the diseases treated of, are the next subjects considered; but on these abstruse and difficult topics the writer's speculations become more vague, and are advanced with much less confidence: for these reasons it is impossible to give a correct view of them in an abstract.

After entering at considerable length into this part of the subject, the writer concludes by relating a series of cases illustrating the views developed in the former part of the paper.

Dr. Copland said, he thought the papers contained merely, under a new form and title, an illustration of principles which were generally raised, and which might be found laid down in two generally known articles—Blood and Disease—of a work recently published; namely, that in any case where there was a deficiency of vital power, from whatever cause, it was usual for the double organs to be doubly affected: thus it was in many diseases which he enumerated. With regard to one of the sources of interference with the symmetrical occurrence of disease which had been mentioned, namely, febrile action, he would only observe, that in fever itself remarkable illustrations of the principle he had laid down were to be met with: for example, the double pneumonia and the double bronchitis of the late stages of fever were phenomena well known; and it was generally admitted, that in all these cases there was a particular tendency to the development of similar disease in both of the double organs.

Dr. Gregory thought that the two papers so completely illustrated the history of symmetrical disease that it was now only important to study those which were *not* symmetrical, and among which there were some with remarkable peculiarities; for example, herpes zoster never, as far as he knew, affected both sides of the body; and so it was also with the variola consequent upon small-pox, which almost invariably affected but one eye. He did not mean that it was always confined to one; but still a case in which it affected both was very rare, and always deserved special notice. There seemed in this a remarkable provision of nature; for were cases of double variolous ophthalmia common, so would, in the same proportion, be those of total and irremediable blindness. He believed that the same rule held of gonorrhœal inflammation of the testicle and gonorrhœal ophthalmia, which also very rarely affected both sides.

Mr. Lloyd said, that it was by no means rare to find gonorrhœal inflammation of both testes. Recently he had had at least three cases among the out-patients at St. Bartholomew's Hospital.

Dr. William Budd desired to call attention to a drawing (not noticed in the paper) of a case of paralysis of the hands from the influence of lead. This, he said, was a case remarkably illustrative of what he had advanced; for here was a small set of muscles, the extensors of the hand, which were always symmetrically affected; and that by the very presence of lead in them. Some experiments, by M. Tanquerel, had determined this fact; and recently, at the King's College Hospital, in a man who died of epilepsy from the influence of lead, Mr. Miller had detected that metal in the paralysed extensor muscles of the hand.

Mr. Cæsar Hawkins said, there appeared to him to be a general failure in the law of symmetry in the case of malignant disease, in which he thought it was seldom, if ever, exhibited. In medullary disease of the testicle, for example, he had never met with a case where both organs were alike affected. Or, again, in carcinoma of the breast, cases never occurred where both mammary glands were similarly diseased; but if, with an ordinary carcinoma of one side, there were any disease of the other breast, it usually consisted only of the common carcinomatous tubercles of the skin.

Dr. W. Budd said, that he had, in a part of the paper which had not been read, dwelt at some length on the subject of carcinoma, which he thought was not such a disease as would be developed symmetrically. Those which exhibited symmetry were such as depended on a change in the chemical constitution of the blood. Malignant diseases were not of this kind, but were the results of the development of parasitic substances in the tissues, consisting of cells and other tissues with independent vitality.

Mr. Paget said he believed the law of symmetry held as well for malignant as for other general diseases. Two cases of symmetrical carcinoma of the ovaries had been related in his paper; and since it was written, he had met with one case affecting both ovaries equally, and another affecting both renal capsules in a similar manner. He thought the failure of symmetry in the carcinomatous diseases of the external organs was due to their peculiar liability to have their original symmetry destroyed by external influences.

Mr. Perry asked whether, in the case of lead-palsy alluded to, the other muscles of the body had been examined as well as the extensors of the hands.

Dr. Budd said they had not.

The President called the attention of the members to the use of the secale cornutum in cases of lead-palsy. He had lately employed this remedy extensively, in different diseases, at St Thomas's Hospital, and he could state that there was little or no danger

of its producing, even in large doses, the ill effects which some attributed to it. It had been given to many in the quantity of half a drachm, or a drachm, in the day, without the least harm, and some patients had taken altogether as much as a pound without injury. He had employed it in several cases of lead-palsy with great advantage: and he related two in which, after a variety of medicines had been tried without the least benefit, the secale cornutum, given in doses of ten grains three times a day, produced rapid improvement, and, at last, complete relief in from six weeks to two months. He could not tell the exact mode of operation of the remedy, but of its utility he had no doubt.

ROYAL COLLEGE OF SURGEONS.

LIST OF GENTLEMEN ADMITTED MEMBERS.

Friday, December 3, 1841.

J. Shuter.—J. M. Edwards.—B. Booth.—R. P. Cotton.—W. Walter.—F. Giles.—S. K. Scott.—F. Broughton.—T. S. Eyre.—D. J. Williams.—J. Worlcott.—W. C. Moat.

[This list was accidentally omitted in its proper number.]

A TABLE OF MORTALITY FOR THE METROPOLIS,

Shewing the number of deaths from all causes registered in the week ending Saturday, Dec. 11, 1841.

Small Pox	5
Measles	37
Scarlatina	16
Hooping Cough	33
Croup	10
Thrush	5
Diarrhoea	11
Dysentery	0
Cholera	1
Influenza.....	1
Typhus	24
Erysipelas	6
Syphilis	2
Hydrophobia	0
Diseases of the Brain, Nerves, and Senses ..	132
Diseases of the Lungs, and other Organs of Respiration.....	218
Diseases of the Heart and Blood-vessels	19
Diseases of the Stomach, Liver, and other Organs of Digestion	69
Diseases of the Kidneys, &c.....	8
Childbed	6
Ovarian Dropsy	0
Disease of Uterus, &c.	2
Rheumatism	4
Diseases of Joints, &c.	4
Ulcer	0
Fistula	1
Diseases of Skin, &c.	0
Diseases of Uncertain Seat	86
Old Age or Natural Decay.....	56
Deaths by Violence, Privation, or Intemperance	18
Causes not specified	5
Deaths from all Causes	770

ERRATA.—In Sir C. Scudamore's paper, p. 435, col. 1, for "Gordon," read "Garden;" col. 2, line 11, for "became," read "become;" p. 436, line 6, for "external," read "internal;" line 20, for "disturbing for," read "disturbing to."

WILSON & OGILVY, 57, Skinner Street, London.

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FRIDAY, DECEMBER 31, 1841.

NOTES FROM CLINICAL LECTURES,

*Delivered during the present Session,
at Univers. Coll. Hospital,*

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Leucorrhœa.

MARY DAY, aged 20, admitted October 26, of florid complexion, with dark hair; had formerly enjoyed good health, but has been ailing for the last two years. If I recollect aright, it was about this time ago when she first came to London, having previously resided at her native place in Somersetshire. We frequently find that florid robust girls, from the country, lose their health on coming to London; especially when their residence in town is in a crowded, or damp low situation; and Lambeth, where this girl has been residing, is one of the worst of such parts. About nine months ago the discharge per vaginam first commenced; it was in considerable quantity, colourless, occasionally thick, at other times more watery. It continued since its first appearance, up to the time of her admission, being increased on standing or using any exertion, and diminished by the opposite circumstances of rest and quiet. With the discharge she has suffered also from almost constant pain in the lower part of the back, and latterly she has become much weaker, and somewhat thinner and paler than formerly.

At the time of her admission there was dull aching pain in the lower part of the back, and some tenderness on firm pressure in this situation; the discharge per vaginam was abundant, and of a yellowish colour. She complained of much general weakness,

and the extremities were usually cold. Catamenia scanty, and occurring irregularly; the urine pale, and of a rather low specific gravity. The bowels were costive, and there were many of the ordinary symptoms of atonic dyspepsia.

This is a severe case of a complaint extremely common, particularly in close, low, damp situations in towns, and in those much confined to in-door employments.

The pathology of this disorder is a subject which has been much discussed; but, in the present case, from its chronic character, from its being accompanied with much general and functional debility, and resulting, as it does, from debilitating causes, we must regard it rather as a disease of weakness, with congestion of the uterine system, than of an inflammatory character. There are some forms of leucorrhœa which may be regarded as more inflammatory, arising from irritating causes; but these are of a less permanent character. The discharge here may be considered as a flux from vessels congested from loss of tone; and, as in other cases of atonic congestion, we find it increased by postures and exertions that cause the blood to gravitate to the weak parts.

We see also that the periodic function of the uterus had suffered: it is very obvious that vessels continually drained by a flux cannot retain sufficient for their periodic secretion. The pain in the lower part of the back is an interesting symptom with regard to the pathology of these cases; it is generally a wearing pain, relieved by lying down, and often by pressure applied to the back, though in this instance it was increased by firm pressure. These pains must be regarded as analogous to those of, what is called, spinal irritation, in which there is pain in the back, and likewise in organs supplied by nerves arising from the painful part of the spine. The pathological nature of the affection of the spine is probably congestive; and if we consider the remarkably tortuous distribu-

tion and the large size of the vessels within the spinal canal, we shall not wonder that these may readily become subject to that morbid condition.

The treatment was deduced from consideration of the pathology of the disease. Two indications presented themselves; one to relieve and brace the loaded vessels; the other to give strength generally. The most effectual mode of relieving congested vessels is by local blood-letting. The vessels of the uterus are rather out of the way; leeches to the os uteri are the most immediate means of drawing blood from this organ; but this plan is not always convenient or practicable. The next best plan is cupping, or leeches to the lower part of the back. This is quite necessary in long-continued cases; in slighter cases the continued application of cold, as by sponging with vinegar for a quarter of an hour together, or by pouring several jugs of cold water in a forcible stream on the back, so as to render the back quite cold, is sufficient. Cold thus applied braces not only the vessels of the spinal sheath, but also those in the pelvis. If the patient be susceptible of cold, salt should be added to the water, and diligent friction used after the affusion; and the feet may during the process be kept in warm water. These measures will often give permanent relief, where astringent injections have been used for a length of time without any benefit. In this case, however, as there was considerable pain, and the patient was not much anæmiated, cupping was considered necessary; and a solution of zinc was prescribed as an injection. The pain in the first place was considerably relieved by the cupping; but it was subsequently increased, as well as the discharge, by the rough manner in which the injection had been applied. On this account the injection was discontinued. Another measure conducive to relieve by derivation the inflamed vessels, is purgation; here further indicated by the costiveness. But common-purgatives, such as aloes, colocynth, jalap, and the like, irritate the lower bowels, and by sympathy the uterine system; they should be therefore avoided. The best kind of aperient is two or three drachms, or a sufficient dose, of Epsom salts, with half a drachm of diluted sulphuric acid in infusion of quassia, with a little peppermint water. This taken every morning fasting is a good tonic aperient, acting without irritation, and tends to brace the vessels after its operation. In other respects the treatment was supporting.

This treatment diminished, but did not remove, the discharge and the pain; hence it appeared desirable to repeat the cupping; after which the pain was only felt on exertion. But the leucorrhœa continued; and for this another injection was tried: sul-

phate of copper, gr. j., to ʒj. of water, which was changed in a few days for a solution of alum, with tinct. opii, the former injection having given some pain.

The strength and general health of the patient improved under the tonic treatment; and on the 10th the catamenia appeared: in consequence of this the injection was discontinued, and likewise the acid saline. But, on the suspension of the medicine, the pain in the back returned; and it was quite evident that unless the treatment were continued, the disease would remain at a stand. Accordingly, when the menstrual flux ceased, both the saline and the injection were recommenced; and this was followed by considerable improvement, which progressed favourably till the 20th, when, in consequence of her having exerted herself too much, and likewise, as it appeared, from her having, by mistake, taken an over-dose of the opening medicine, the pain in the back returned. This was soon relieved by a third cupping to a small amount; and, on the 27th, she was discharged convalescent, the leucorrhœa being almost entirely removed, and her general health being completely restored; so that her longer confinement in the house would be probably more injurious than the rest it afforded would be beneficial.

Leucorrhœa—Morbus ovarii?—Syphilis—Neuralgia—Phthisis incipiens.

Louisa Templeman, admitted Nov. 3.—This case resembles the last only in the single circumstance of leucorrhœa, which is common to both. The previous history of this patient is very fully and accurately reported in the hospital book; it is too long to be read here, and I must refer you to it at your leisure. She has been married nineteen years; æt. 42; moderately stout; of a pale complexion and dark hair. It appears probable that her father died of consumption. The patient herself has been subject to a great variety of maladies, which we shall endeavour briefly to specify. Besides numerous labours, all of them severe, and some complicated with malposition of the child and severe flooding, she has had a miscarriage, which is a circumstance often very injurious to the constitution, from the shock it gives to the system. The miscarriage, which she attributes to a kick on the left iliac region, occurred two years ago; since which time she has been constantly subject to a dull pain in the left iliac region, increased on exertion, or by pressure. She has likewise been infected with the venereal disease from her husband (sore throat, eruption, and cutaneous ulcers); and at present she has some symptoms of secondary syphilis.

Besides these affections connected with the generative system, she has been the sub-

ject of acute rheumatism, complicated with affection of the heart; and she has suffered from various hysteric and neuralgic pains in the joints, left side, integuments, &c. Some months ago, also, she had some pulmonary affection, bronchitis, or pneumonia, which required local and general treatment.

On her admission she presented a complication of disorders, most of them of a distressing rather than a dangerous character. And we would remark, that the nervous temperament, which is clearly marked in this case, tends to exaggerate the symptoms of various diseases, particularly those referable to sensation and nervous irritation.

The symptoms presented different groups. The most prominent was that of the uterine system. The venereal affection presented itself as an eruption, partly pustular, partly papular, chiefly on the head, back, and arms, leaving, in some parts, slight copper-coloured stains. There is, as in the last case, leucorrhœal discharge. In that case, however, there was no suspicion of organic disease. Here, though the menses occur, and the age of the patient is under that of cancer, yet it is probable that the pain depends on some chronic change, probably resulting, in the first instance, from the bad labours; and also from the kick already mentioned, which might give rise to inflammation in the ovary, and consequent adhesions. On deep pressure, a small hard tumor can be felt in the left iliac region.

In the chest, the *generalsymptoms* were not very prominent; slight cough and shortness of breath; no expectoration; considerable superficial tenderness of the left side of the chest, but not much pain internally; no increased frequency of the pulse; no emaciation; nor other hectic symptoms common in confirmed phthisis. But the *physical examination* detected dulness, and loud expiration, at the upper part of the left side of the chest. Now these signs, combined with the general symptoms, and in a person of injured constitution, most probably indicate tubercle in the lung. There must be either this or inflammation; but there are none of the active symptoms of the latter: hence we infer the existence of the former.

The tuberculous disease is, probably, in an incipient stage, and hitherto serves rather to increase the neuralgic symptoms resulting from her hysterical diathesis, than to present the proper symptoms of phthisis. Thus, we find the superficial tenderness already mentioned; the pain being principally in the left side (the common situation of hysterical pains), and in the corresponding part of the spine. This serves as a further illustration of the remark we have already made, that, in nervous subjects, much pain may be produced by organic diseases, before they have advanced to any very serious

degree; whilst in others, less sensitive, the same structural disease proceeds to its destructive results, with scarcely a pain or an ache.

In a case so complicated as this, what *treatment* must we adopt?

The predominant character of her disorders is weakness: this suggests a tonic treatment; but there are, at the same time, those painful local affections, which are increased under a simply tonic plan. Here we must make a compromise, and, while we use local depletion, and counter-irritation, with narcotics, to relieve pain and remove congestion, we must improve the general health by the administration of tonics. Such was the course adopted in this case; a blister was applied to the chest, and a mild tonic administered, containing Iodide of Potassium, with Tincture of Henbane; in addition to these, the acid saline aperient mentioned in the last case was administered each morning.

On the 11th, as there was much pain in the lower part of the back, six leeches were applied in this situation, but without much benefit. She continued the same treatment till the 23d, but without any decided improvement. On this day, I added one grain of Iodide of Iron to each dose of the mixture, but the pain was increased, particularly in the chest, rather than the pelvis. A blister, sprinkled with morphia, applied to the chest, has given some relief temporarily, but the tonic plan must be discontinued till the pain is relieved.

But, we must not forget the specific disease which still exists—the syphilis. This tends to deprave the nutritive function, and it is highly desirable it should be removed.

She had taken mercury before she came in, and has been using the iodide of potassium since her admission; we shall now try the combination of these, which is often more useful than either separately. Profuse salivation, however, must be avoided, as this, itself, tends to deprave nutrition, and would cause the more rapid deposition of tubercle in the lungs. Blue pill is the form of the mercurial which we shall adopt; and we shall give the Iodide of Potassium in the Decoct. Sarzæ.

This is not a case well adapted to a hospital; there is disease which may continue for a length of time, but it must ultimately prove fatal. We must endeavour to remove the more curable parts of her disorder, before we dismiss her from the hospital.

[Dec. 23d.—The syphilitic symptoms soon yielded under a gentle action of mercury. The iodide and sarza have been continued, and she is much better, but still complains of the pain of the left chest. The cough is trifling, and the pulse natural. The dulness in the left chest remains.]

Morbus cordis.

Sylvia Restall, single, age 20, admitted November 17th. This patient had a considerable curvature in the lower part of the spine. A slight affection of this kind is very common in town-bred girls; indeed it is rather rare to find it entirely absent in such, except in the lower classes, who are obliged to take much exercise.

This patient has been subject to palpitation from her fourteenth year; at this time she lost her colour, and has remained rather pallid ever since, and has likewise been subject to dyspeptic symptoms. The palpitation is always produced by exertion, and on lying down, in which position the heart is more encumbered by the weight of the abdominal viscera: pain accompanies the palpitation, but more in the epigastrium than in the cardiac region, that part being more nervous and sensitive. For the last two months the feet have been œdematous. She has never been affected with rheumatism, nor any thoracic inflammation. The present symptoms are, constant palpitation, with pain below the left breast and in the epigastrium; dyspnoea; frequent pulse; white tongue; bowels open by medicine; face rather flushed; extremities cold.

The physical signs prove a slight amount of disease in the heart. There is more than the natural extent of dulness of stroke—sound over the heart; the impulse was felt over an unnaturally extended surface; and a slight though very distinct murmur with the first sound of the heart, heard to the left of the sternum, on a level with the third rib, and in the carotids.

We concluded that the heart was somewhat enlarged, and that permanent disease was temporarily aggravated by congestion. There was, for its power, too much blood in the heart, which consequently struggled with the load. This may sometimes be removed by derivation to the extremities by means of hot pediluvia and maniluvia; but where the palpitation is severe and constant, it is better to relieve more surely the congested organ by a small local bleeding, even at the risk of slightly increasing the general weakness. Six leeches were accordingly applied over the heart. This relieved the pain and palpitation, and, what is more interesting, the murmur entirely ceased; the dulness of stroke-sound, and the extensive impulse, were diminished, but not removed.

It was evident that the distension of the heart had been relieved; but whether such a state of congestion alone, without constriction or irregularity of the aortic orifice, would suffice to produce a murmur, is a question which at present I am unable to answer: I have not yet been able to prove such a cause sufficient by any satisfactory experiment.

In addition to the bleeding, mild aperients and a saline with hydrocyanic acid, were administered at first, and subsequently a mixture containing iodide of iron for a few days. On the 23d, being restored to her ordinary state of health, she was discharged.

The symptoms, and even some of the physical signs, of the structural disease of the heart, are frequently exaggerated in young females of a nervous irritability connected with a poor and scanty blood. This condition is indicated especially by the paleness of the tissues, and the loud venous murmur heard in the neck. The more it prevails the more is it necessary to avoid depletion, and to exhibit chalybeate tonics, and a nutritious but carefully regulated diet.

Morbus cordis.—Vertigo.—Phthisis.

John Hudson, married, aged 40, admitted Nov. 9th, presents another case of heart disease. He is of a spare habit, and rather pale and sallow complexion. He has been a free drinker from his youth till within the last ten years, during which time he has been more moderate. His parents both lived to a good old age. He has had various febrile affections at different times—ague, scarlet fever, erysipelas, &c. For some months he has had a slight cough, and been losing flesh. He has never been affected with rheumatism. Since the beginning of November he has been affected with pains in the chest, with palpitation, and much headache and giddiness. These, together with some dyspeptic symptoms, existed at the time of his admission. The headache and giddiness were much increased in the recumbent posture, showing some amount either of congestion or determination of blood, either of which would be increased by that position. On examining the chest a slight prominence was observed in the cardiac region; there was extensive dulness of stroke-sound in the same situation, and the impulse of the heart was strong, and felt below the sixth rib. The first sound was accompanied with a slight murmur heard at sternum. At a subsequent examination a short filing murmur was heard, with the second sound, to the right of the mid-sternum. These signs clearly proved some amount of organic disease of the heart, hypertrophy with slight disease of the aortic valves; and the history showed that there was at present an exacerbation of the symptoms connected with these lesions. The violent action of the heart might cause the giddiness; but it was a question if the heart symptoms depended on the disease of the heart merely. Probably the disorder of the digestive organs increased both the symptoms of the head and the heart. Such disorder is apt, in many ways, to aggravate affections of the heart. The fulness of a

flatulent stomach excites the heart at the same time that it mechanically obstructs its motions; and, if there be a fulness of the blood-vessels from imperfect excretion, the excited heart forces the blood with injurious violence into the vessels of the head.

In the present case the strength of pulsation in the carotids convinced me that there was determination to the head. The most pressing indication was to diminish the fulness of the cerebral vessels and the action of the heart, which was soon effected by purging with calomel and black draught, and by cupping from the nucha to eight ounces. This gave complete relief to the headache, but some giddiness still remained; and it was observed that the pupils were rather dilated, and that of the right eye more than the left. We may suppose that this was owing to the blood-vessels causing more pressure on one side of the brain than on the other. In more aggravated cases (even without hæmorrhage) we meet with paralysis of one side of the body; and if this pressure had not been relieved, such might have been the result here. As he complained much of weakness after the cupping, a tonic was prescribed, consisting of infusion of quassia, with dilute nitric acid, to which one grain of quinine was added a few days after; but the last increasing the giddiness, and causing some return of headache, it was omitted.

Since the 20th, attention has been called to a cough, which the patient ascribed to his having caught cold (the common explanation of this symptom). It was accompanied at first with watery expectoration. On examining the chest, the stroke-sound under both clavicles was found to be less resonant than would be expected in the healthy chest of so thin a subject; but the dulness was most marked on the right side. The breath-sound was obscure under the right clavicle, and the sound of expiration more than ordinarily loud. All these are the signs of partial consolidation, most probably the result of a chronic tuberculous affection. For the relief of these symptoms I prescribed a stimulating liniment on flannel, and covered with a Mackintosh cloth, to be applied to the chest, and I added a little tincture of henbane to the draught he was formerly taking.

He is considerably relieved; the cough and expectoration have almost left him, though the dulness still remains under the right clavicle. His appetite is good, and the headache, giddiness, and dyspeptic symptoms, are all removed. He is still subject to occasional attacks of palpitation, with some pain in the left side of the chest on lying on that side; but as both the cardiac and pulmonary affections are now about as much relieved as it is likely that they will be, we shall now dismiss him.

Gastro-enteritis milis?—Aphthæ.

James Woodbridge, æt. 10 years, admitted Nov. 13, was attacked, two or three days before, with a convulsion fit; but it does not appear whether he had had any fits previously. After this, he had swelling of the glands in the neck, pain in the head, sickness, much thirst, a sore throat, and, what he called, *gum-boils*; but this is a term which the common people apply to almost any affection causing soreness of the mouth.

At the time of his admission the sickness and pain had left him, and he scarcely made any complaint: he had no fever, but there were aphthous vesicles on the tongue, near the tip, and opaque white patches of thickened epithelium on the fauces, gums, and inner surface of the cheeks. The alvine evacuations were dark-coloured. The disorder seemed to proceed from a low slightly inflammatory affection of the mucous membrane of the alimentary canal; and all that appeared requisite in the way of treatment was a mild alterative aperient to act on the bowels: this was ordered in the following form:—

℞ Hydrarg. c. Creta gr. iij.; Pulveris Antimonialis gr. j.; ft. pulv. bis die sumendus.

Omni mane sumat Ol. Ricini 3ij.

This, and a wash for the mouth, consisting of a saturated solution of borax, were all the means adopted.

In a few days the mouth assumed its healthy appearance; the evacuations were natural, and the child appeared quite well in all respects; and was dismissed on the 17th.

Slight mucous inflammations of the alimentary passages are very common among children, and, if ill treated, are apt to become more serious, and pass into infantile remittent fever. The most common mal-treatment is, allowing the children too much, and too nourishing, food. Generally, much debility accompanies these affections, and the friends of the patient are ready to cram him with all that will nourish and support, including even wine or beer.

The chief points of treatment are, attention to the diet, to evacuate the bowels regularly but gently, and to keep the stools of a good colour.

The diet should be of the lightest farinaceous kinds; in pallid subjects only adding a little chicken or veal broth.

Grey powder is the best alterative aperient: calomel is too irritating, and is apt to cause diarrhoea. When any fever is present it is well to combine the mercurial with a little Pulv. Jacobi, and to follow it with small doses of castor-oil.

Pleuropneumonia. Tubercula?

John Penelli, æt. 17, admitted Nov. 10,

of slight make, dark complexion. A coach-lace weaver. Says he was pretty well till a week ago, when, while at his work, he was seized with a shivering, and a feeling of great weakness, so that he was unable to continue his work: he has kept his bed since, but has had no treatment, except taking some salts.

At the time of his admission he complained of great weakness and pain in the head; the pulse 80, small and sharp; the skin hot, but moist; the tongue furred in the middle, but red at the tip and edges.

All these appeared the symptoms merely of a slight febrile attack; but there was, likewise, a dull pain in the lower part of the left side, increased by inspiration and by pressure; and he had a slight cough without much expectoration. On examining the chest, we found marked dulness of stroke-sound in the lower part of the left chest; and, in this situation, the breath-sound was very obscure, mixed with crepitation and sibilant rhoncus. These symptoms and signs shewed that there was a low inflammation going on both in the pleura and in the pulmonary tissue on the left side.

He was bled to ten ounces, and the following medicines were prescribed—

R Hydrarg. Chlorid. gr. iij. ; Pulv. Opii gr. $\frac{1}{4}$. M. ft. pulv. bis die sumend.
R Antim. Tart. gr. $\frac{1}{4}$; Acid. Hydrocyanici dil. \mathfrak{m} iv. ; Aquæ \mathfrak{z} j. M. ft. haust. ter die sumend. Low diet.

On the 16th, the gums were affected by the mercury; the pain in the chest was relieved; the dulness was diminished, and the crepitation quite gone; a slight cough still remained. The pills were omitted, and he was allowed a better diet.

On the following day, however, he made mention of pain and tenderness in the abdomen; the pulse was sharper and more frequent; the tongue more furred; the bowels relaxed.

Six leeches were applied to the abdomen; the antimonial was discontinued; small doses of castor-oil were prescribed; and he was reduced to low diet.

The bowel complaint was promptly relieved; and a tonic medicine was then prescribed. From this time he gradually improved, and, on the 25th, was so far better as to be able to leave the house, complaining only of weakness and a very slight cough. The feverish inflammatory attack for which he was admitted was removed; there was no pain or crepitation; the respiration was heard to the lowest confines of the left side, but some dulness still remained in that side; and this was as much in the upper as in the lower part of the chest, which is an unfavourable sign; dulness towards the apex of the lung being

usually connected with tubercle; and this circumstance, together with the continuance of any cough, however slight, leads to the suspicion that some degree of tuberculous deposit may have taken place in this lung.

ON

POISONED WOUNDS.

BY HERBERT MAYO, ESQ. F.R.S.

(For the Medical Gazette.)

III. EFFECTS OF THE BITES OF RABID ANIMALS.

MANY animals of unlike kinds are liable to become rabid, or to exhibit peculiar symptoms, which in a few days end fatally. The features of *rabies*, as the disease is termed, are not, however, exactly the same in different species; and the identity of the dissimilar complaints has to be proved by reference to their common origin. Rabies follows inoculation with the saliva of a rabid animal. Of several animals bitten by the same rabid dog, after an interval the train of symptoms proper to each, according to its species, manifests itself in an uncertain number.

Human beings are susceptible of this poison. The form of the disease produced by it in man has been termed *hydrophobia*, from the convulsive shudder at the approach of water which constitutes its characteristic symptom.

The animals known to have been attacked with rabies are the dog, the wolf, the fox, the jackal; the cat; the horse, ass, and mule; cattle, sheep, pigs, rabbits, and poultry.

From among these, human beings have been infected by the five first alone. Nor is there any proof that the other animals specified have the power of communicating the disease. M. Dupuy tried, and failed, to infect cows and sheep, by rubbing their wounds with a sponge which animals of the same kind when rabid had had in their mouths; but a similar experiment being made on the same animals with a sponge that had been bitten by a rabid dog, they became infected. M. Dupuy has likewise seen, among several flocks, sheep affected with rabies, yet the disorder was never communicated by them to other sheep, notwithstanding that some were bitten in parts stripped of wool. The following are the particulars of an experiment made by M. Girard, at Alfort, to the same purpose. A shepherd's dog, having shown decided symptoms of rabies, was destroyed on the 1st of June.—All the flock, some of whom he had been seen to bite, remained well till the 4th of July. Between the 5th and 9th, four of the sheep were taken with symptoms that were much alike in all of them, and they

died in about three days. The common symptoms evinced, before the final stage of exhaustion supervened, were peculiarities in their habits—a disposition to butt and press against, and mount on the others—an alteration in their bleat; likewise, a disposition to drink, and to be perpetually chewing, and picking up and swallowing bits of straw and dung, which in health they do not touch. With the saliva of these animals, a horse, a dog, and two sheep, were inoculated. At the expiration of four months they all remained in health.—*Magendie's Journal*, tom. viii. p. 324.

There are grounds for believing that the saliva of human beings is capable of producing rabies in animals, in the following experiment made by Magendie and Breschet. Two dogs were inoculated, on the 19th of June, with the saliva of a patient labouring under hydrophobia. Of these, one became rabid on the 26th of July, when it bit two other dogs; of these, one again became rabid, and died on the 26th of August.

Agreeably with common usage, I have spoken of the *saliva* of rabid animals as containing the *materies morbi*. But there is nothing to shew that the virus specially, or indeed at all, resides in the secretion of the salivary glands. All that is known is, that the common moisture, or mixed mucus of the fauces, conveys it.

In this country the disease has been produced by the bites of rabid dogs and rabid cats alone; and of the latter there have not been many instances. So that we are accustomed to consider the canine species as the source of the malady, which is thence often generically called *canine madness*. It may therefore be desirable, first, to attend to its history in the dog; especially as the dog is so socially mixed with man, that every one for his own security should have a knowledge of the symptoms of incipient rabies.

The popular impression is, that canine madness is a sort of dog-lunacy, having the same relation to sirius which insanity has to the moon; which, indeed, in another sense, is probably true. So the summer heat is said to drive dogs mad, and the town is regularly cautioned to muzzle its canine favourites in the dog-days. But this impression is founded in error. Dogs do not go mad in the summer oftener than in the winter, or autumn, or spring. And at Lisbon and Constantinople, where the heat is much greater, and the dogs are more numerous, than in London, rabies is comparatively rare. The latter singular circumstance may possibly be owing to the mass of the dogs in those cities being more in a state of nature, forming almost wild packs, which scour the streets at night. Rabies, however, is certainly more frequent at some periods than others; but this is equally the

case with small-pox, scarlatina, measles, and other infectious disorders. Two elements are always wanting to promote contagion—the presence of the contagious matter, and a fit condition of the recipient. And it holds in all communicable ailments, that the predisposition to them is at times epidemic. The periods at which rabies is rife are certainly not determined by the temperature or season of the year.

Every fact that we know on the subject, and the concurring opinions of the most experienced persons, tend to establish that rabies and hydrophobia are never of spontaneous origin.

The time which elapses between inoculation and the appearance of the disease in dogs is commonly from three to six weeks; but it is often extended to a longer period. Mr. Samuel Cooper mentions an instance within his own observation, where rabies followed a bite received seventy days before. The following interesting facts to the same purpose are quoted by Mr. Gilman, from Daniel's Rural Sports. On the 8th of June, 1791, the man who had charge of Earl Fitzwilliam's hounds was in the night unusually disturbed by the hounds fighting. He got up several times to quiet them, but always found the same hound quarrelling. He was induced in consequence to notice him; and finding him stupid and quarrelsome, he confined him by himself: the hounds were quiet the remainder of the night. At the end of the third day he became rabid, and on the fifth died. Preparations were made for confining forty-two couple of hounds separately. The symptoms and process of the disease were exactly minuted by a medical gentleman. Six of the hounds became rabid in the following order: the first on July the 1st; the second on August the 3d; the third on August the 14th; the fourth on September the 4th; the fifth on November the 10th; the sixth on December the 8th. It is natural to suppose that an interval which has been ascertained to vary from three weeks to six months has yet wider limits, and that a year, or even a much longer period of health, would give no absolute certainty of the risk having passed by. Accordingly, if a dog is known to have been bitten by a rabid dog, there is no safe alternative but destroying him. The practice which is available in the case of human beings that are bit by rabid animals fails in the case of the dog, as there are no means of telling in how many places a dog may be wounded: his coat of hair may conceal half a dozen points at which the skin may be broken.

Among the first symptoms of rabies in a dog, is the tendency to fly at and worry animals, while he remains as yet perfectly gentle to man. Then some further altera-

tion is observed in his habits: he is dull, and shy, and restless, sometimes more meek and passive than before, generally more irritable, and easily provoked to snap; but he will allow himself to be handled and caressed, though not with perfect security, as he is more fearful than natural, and his temper more uncertain. He is now observed to pick up bits of straw, paper, and the like, and to tear and gnaw any thing near him, sometimes to eat his excrement, or lap his urine. He shows no aversion to water, but when it is presented to him, often cagerly laps it up. His eye is dull, his tail droops, his ears are pricked. His restlessness and uneasiness increase. If chained, he makes every effort to get loose. If he succeeds, he commonly becomes furious, and runs snapping at every thing indiscriminately, but not straight forward only; but turning into open doors, he bites animals, children, or grown persons, that are within his reach; then rushing on again, in this fury he is generally overtaken and killed. A savage dog, in this state, will sometimes continue his attack on one person, trying to master him, till he is destroyed. If continuing in confinement, he remains under observation, as the disease advances he becomes sensibly weaker; his eye is red and bloodshot, with secretion round it; he swallows with difficulty, but still continues to lap water, which he does not, however, try to swallow; his lower jaw drops, as if the muscles were partially paralysed, and viscid saliva hangs about it; vomiting is commonly present, and he often seems in inward pain, sitting on his rump, with his belly hollowed. If not chained now, he wanders about, or rather staggers about, with scarcely the power of biting, and, exhausted by the disease, he generally dies about the fourth or fifth day.

Having before mentioned some of the symptoms of rabies in sheep, and having thus described the features of the disease in the dog, it may throw additional light on the disorder to narrate how they are modified in pigs. The symptoms in this species of animals come much nearer to those of hydrophobia.

Mr. Gillman mentions that a sow and two pigs were bitten by a rabid dog; one of the young pigs became rabid on the tenth day; the other on the fourteenth; the sow was seized on the twenty-seventh. She was on that day observed to take up in her mouth the dirty straw and filth that lay about the sty. The following morning she refused her food, but was perfectly quiet and harmless, and came from her bed when called; she ate some gooseberry husks in the evening, but swallowed them with difficulty. The third morning she was dull, but came out of the sty when called. Some milk was offered her, which she made some attempts to

drink, but could not. There was a peculiar convulsive motion of the head, and twitching of the lower jaw, but no dread of fluids, as she took up with her teeth, *apparently with much caution*, some small pieces of cabbage leaf, which swam on the top of the wash; but she dropped them, being unable to swallow or chew them. She walked steadily, but slowly. By the evening, the convulsive motions of the head were much increased, and she was extremely restless; frequently she was busily employed in grubbing up the earth with her snout, as if in search of food. When the spasmodic motion returned, which happened every quarter of an hour, she squealed out, and became alarmed if any one approached her. On the fourth morning, all the preceding symptoms were increased, and every hour the paroxysms returned oftener, and were more violent. She frequently jumped up suddenly on her hind legs, and then threw herself on her back with considerable violence. She was affected with the least noise, and when one stamped with his foot, she was thrown by the noise into the most violently convulsive state, and squealed horribly. She died in the night.

We have now to consider the agency of this formidable poison upon human beings.

The ordinary condition of infection is the application of the moisture of the fauces of a rabid animal to a wound, or excoriated surface. Commonly, of course, the bite of a rabid animal at once inflicts the wound, and instils the poison; but hydrophobia has been communicated, by a dog, in the incipient state of rabies, licking the skin, where it had been accidentally broken; and even by the teeth pinching without breaking the skin.

The wound caused by the bite of a rabid animal has no unusual appearance: it heals as soon as any other equal wound, and there is no hardness, or soreness, or redness left to indicate its nature. Nor, for some time, is the health of the person who has been thus inoculated at all disturbed.

If, indeed, nothing is done, he may have a good chance of escaping. He may be insusceptible of the poison, or the teeth of the rabid animal may have gone through clothing, and the poison have been wiped from them: the latter chance, probably, is the most to be relied on.

Yet Dr. Vaughan, in his cases and observations, has informed us, that he knew of between twenty and thirty people, who were bitten by a dog, but hydrophobia was produced in a single instance only, without any one else feeling the least ill effect. "I know," says Dr. Hunter, "where there were twenty-one people bitten by one dog; nothing was done for any one of them, and only one was taken ill." These instances, however, do not give a true average; and several formidable examples are on record

in which the disproportion lay the other way. In the essay by Le Roux, mention is made of three persons bit by a rabid wolf, near Antrim, in July 1781, and, notwithstanding mercurial frictions, they all died of hydrophobia. Of ten other individuals bit by a wolf, nine died rabid.—Rey, *Mém. de la Soc. Royale de Méd.* p. 147. Twenty-four persons were injured in the same manner near Rochelle, and eighteen of them perished.—Andry, *Recherches sur la Rage*, ed. 3, p. 196. Where the inoculation is complete, and proper means of prevention are not used, the proportion of those who escape is probably small.

The time that elapses between the wound and the invasion of hydrophobia is generally from one to two months; but the disease has appeared within three weeks, and it seems impossible to say with confidence how late it may not appear. Of fifteen patients whose cases Trollet was acquainted with, seven were attacked between the fourteenth and thirtieth days; five between the thirtieth and fortieth; two a little after the latter period; and one after fourteen weeks. In May 1784, seventeen persons were bit by a rabid wolf near Brive, of whom ten were afterwards attacked with hydrophobia; one on the 15th day after the bite; one on the 18th; one on the 19th; one on the 28th; one on the 30th; one on the 33d; one on the 35th; one on the 44th; one on the 52d; and the last on the 68th day (*Histoire de la Soc. Royale de Médecine*, p. 209). Fothergill and Mosely mention cases in which the disease began four months after the bite; and M. Matthay, of Geneva, details an instance in which the interval was 117 days (*Journ. Gén.* t. 54, p. 275). Huguenot knew of a case in which the interval was five months (Portal, p. 183). Dr. J. Vaughan mentions an interval of nine months; Mead, of eleven; Nourse, of nineteen months; and R. Lentilius, of three years. Finally, Dr. Bardsley, of Manchester, has recorded a case in which the most careful inquiries tended to prove, that the patient had never suffered the least injury from any animal, except the bite inflicted twelve years before the commencement of hydrophobia, by a dog apparently mad. (*Mem. of Lit. and Phil. Soc. of Manchester*, vol. iv. part ii. p. 431).

The symptoms of hydrophobia are as insidious in their approach as rapid in their course. Yet, in their brief duration, three distinct periods are often observable. The first period commonly occupies about two days, but may be longer: the pathognomonic symptom then declares itself, and the patient perishes in from two to three days afterwards.

In the first period the patient ails something without knowing what: he is nervous,

uneasy, restless, with a general feeling of indisposition, with headache, a loss of appetite, sometimes with coldness and chills, alternating with heat and feverishness. After some hours one local symptom shews itself: there is a sensation of pricking or tingling in the cicatrix of the bite, and pain shoots from it; if the wound is in the hand, the pain darts to the shoulder. In one of the cases which I have witnessed at this period, the wound having been on the hand, a gland in the axilla became swollen, but there was no redness of the skin, and the swelling went down as the disease advanced. In a boy (James Anderson; Gillman), who was seized three weeks after being bitten, the scar began to pain him in a week; and he had headache and giddiness, and began to spit unusually. Three days before the hydrophobia, the wounded part, which was the lip, throbbed violently: the pain extending to the ear. In the case related by M. Gorey (see *Edin. Med. and Surg. Journal*, 1807, and *Journal de Médecine*, tom. xiii.) in which the disease followed the bite in eight months, about this time the patient experienced unaccustomed fits of passion, and vexed himself about trifles, and fretted like a child. Then he accidentally gave a violent blow to the bitten part, which produced much pain: the following morning he was seized with difficulty of swallowing.

The second period begins when the characteristic symptom develops itself. The patient has already become restless, watchful, morbidly sensitive to external impressions,—when he finds that he cannot swallow liquid: he wonders in what the difficulty consists, but gasps when he attempts it, and turns from the liquid with nervous alarm. His manner is hurried; he sighs frequently, and occasionally his breath seems caught and stopped of a sudden; he is startled at the least thing; his whole sensibility seems unnaturally heightened; a door slamming, a shutter suddenly opened, a hasty step across the floor, light reflected from a mirror, but most the sight of water, or sound of water poured, seem to disturb him, and cause a convulsive difficulty of drawing his breath. He desires those around him to go further, as if he fears they will suffocate him. When gently reasoned with, he summons resolution to make an effort to swallow liquid; if it is brought to him slowly and quietly, he takes the spoon or cup; but as the cup approaches his lip, the effort seems to fail, and he dashes it from him with horror. Any small solid, a raisin, or crumb of bread, he can swallow, and perhaps rice with milk mixed, when there is more solid than liquid; of this he can get down two or three spoonfuls, but more seems to stop his breath, and he urges it away. His countenance is anxious; his gestures sudden; the pulse a

little increased in frequency; the skin not altered; his mouth is dry, and becomes clammy with viscid saliva.

After this stage has lasted about twenty-four hours, the symptoms often undergo a change, which sometimes begins suddenly: he is more excited; his mind loses its balance; he has the suspicious eye of insanity, and becomes violent and furious; vomiting perhaps takes place, and involuntary discharge of fæces; at times he is quieter; then the suffocative spasm seizing him, he starts up, and gasps for breath; his spittle, now a ropy mucus, and very abundant, troubles him to disengage it, and when he is furious he spits it with violence at those who approach him. Sometimes death takes place suddenly, and he dies choaked with spasm in this fury. More commonly before death, if he has been delirious, he becomes calm; the spasm is much lessened, or leaves him, and he can swallow liquids; but he is sinking, and before long expires. This stage of excitement oftener perhaps does not manifest itself; and the last twenty-four to forty-eight hours are much like the second stage—the mind collected till the end.

Having the cause and symptoms, the progress and termination, of hydrophobia, thus before us, we may next consider its pathology.

The appearances seen in post-mortem examinations are the following:—A slightly swollen state of the mucous glands at the root of the tongue, and a trifling increase of vascularity, hardly amounting to inflammation, and greater or less in different instances, of the mucous membrane of the epiglottis, particularly at its edge, and of the upper part of the larynx generally. These appearances alone are constant; of those which follow some are always observed; so that, to a certain degree, they are alternative. The mucous membrane of the pharynx and of the stomach, one or both, are often inflamed at one or more parts in patches, sometimes of bright red, generally of less intensity. The membrane lining part of the bronchial tubes often displays a considerable increase of vascularity. In one instance I found a vast number of spots of dark extravasated blood, from the size of a pea to that of a sixpence, scattered below the peritoneum. There is commonly slight increase of vascularity in the brain, and trifling effusion. Sometimes the inferior aspect of the medulla oblongata has great capillary vascularity, attended even with ecchymosis.

It is evident that these appearances occurring, with the exception of the first, with such irregularity, must be viewed as effects of the disease, not as causes; as results of the disturbance of the nervous system in which it consists, but which disturbance is deducible only from the symptoms

present, and not shewn by any as yet appreciable alteration of those organs.

That this pathological view is just, is rendered further probable by the consideration of the cases which approach nearest in their nature to hydrophobia. These are, varieties of tetanus, and of nervous irritation from poisoned wounds received in dissection. In these instances the external resemblance to hydrophobia is occasionally very close; the appearances after death equally nugatory. They likewise approach hydrophobia in their fatal character. Yet it would be wrong to infer that there is not something in hydrophobia specifically different from them. It is more probable that the effect of the specific poison in the former influences the whole of the case.

Perhaps the complaint, which *looks* most like hydrophobia, is an occasional form of acute laryngitis. Such a case occurred at the Middlesex Hospital, being brought in in the last stage; a doubt remained in our minds, as to its nature, till we saw after death intense inflammation of the larynx, and learnt the whole of the previous history.

Next to this, or it may be of closer resemblance sometimes, are attacks of nervous derangement, produced by apprehension of hydrophobia, when the patient, with no intention to deceive, induces, by the working of his imagination, all the symptoms he has heard to characterize hydrophobia.

We have now to consider the management of this formidable case—the bite of a rabid animal, with the hydrophobia which may follow it. While the latter, when it has once declared itself, has always proved fatal, it is some satisfaction to know that there are sure means of preventing its invasion.

As there are three periods—the fresh wound, the interval, the duration of the consequent hydrophobia—the rules to be adopted in each may be stated separately.

I. The poison imbibed by the sides of the wound diffuses itself very slowly. If the freshly bitten part admits of being well excised, the patient may be exempted of all danger of hydrophobia. This can be easily done, if the tooth has gone little deeper than the skin, which is the common case. If the lip has been bitten *through*, it is easy to excise the portion containing the wound. If the finger, it may be amputated.

The management of a deeper wound, in other parts, is more difficult. It is evident that to leave a bit of the part immediately torn is almost as bad as to do nothing; and that in any way to cut through the torn part, with the knife you employ in the excision, might make that instrument a means of fresh inoculation. The only secure method, then, is to bring out the whole bitten part as a perfect unbroken sac or capsule. With this object the wound is to be filled to the bottom

with the end of a director, and a capsule of integument and flesh, a quarter of an inch in thickness, to be dissected out around it, so as to come away upon it. Sir James Clark's coachman was bitten some years ago in the flesh of the hand, but the teeth of the dog had luckily not gone beyond the inner portion of the short flexor of the thumb, so that by taking out a capsule of the whole thickness of that part of the muscle, the man was secured from hydrophobia, and the use of the hand preserved. But is this operation necessary, and will not milder means serve? Mr. Youatt told me that he has been five times bitten by rabid dogs in the hand, and that he adopted no further precaution than immediately washing the wound, and applying lunar caustic well and thoroughly to the lacerated surfaces. But, then, this excellent observer no doubt saw that he could with certainty reach the whole bitten surface, and there was no delay in the use of the caustic. The latter point may be of importance. A short interval, we may suppose, would allow the saliva to be imbibed further than the caustic would reach; accordingly we find that this method failed twice in the hands of Dr. J. Hunter. In two cases again (25 and 28), mentioned in Dr. Hamilton's work, caustics were employed, but hydrophobia followed. In the *Medical and Physical Journal*, vol. xxxi. there is another case related by Mr. Hardwick. A boy, ten years old, was bitten in the lip by a dog with which he was accustomed to play; a caustic was applied to the parts, and repeated for several days; for weeks from the wound healing, hydrophobia appeared. The following case occurred within my own knowledge:—A labourer was sleeping in a barn at Edgware, when he was awoken by a weight on his chest; a bull-dog was standing over him, which, when he stirred, attacked him. After a long and desperate struggle he killed the animal. He came to the Middlesex Hospital the next day, with wounds upon his face, and neck, and hands, none very deep or extensive, but so numerous that to cut them out was impracticable. Neither was there any evidence to prove that the dog was mad. However, I cauterized all the wounds with the nitrate of silver, using the utmost care, and detained the man in the hospital. But getting well he would not remain. I heard that two months afterwards he died of hydrophobia.

When a dog has bitten a man the last thing to be done is to destroy it. The dog should be chained up, and carefully looked to daily. The following cases exemplify the importance of this obvious measure. The summer before last a gentleman sent to me in great anxiety about himself: he is naturally nervous, and having been bitten a few days before by a dog, he was persuaded that he

experienced difficulty of swallowing, and was about to have hydrophobia, and nothing I think saved him from a serious, perhaps fatal nervous illness, but receiving certain reports that the dog continued in perfect health. A lad was brought to me with his hand much swelled and inflamed from the bite of a dog, and his father was very anxious to have the part removed; but the state of the hand rendered such an operation extremely hazardous; and as the dog was alive, I persuaded him to wait, and have nothing done, till we should learn that the dog had become rabid. The hand was therefore poulticed only, and got well, and the dog proved not to be rabid.

What continuance of health in a dog, that has snapped at and bitten a person, would authorize one to conclude positively that the wound is not a poisoned one? It is probable that if the dog does not become rabid in a month, the patient is perfectly secure; but two months would be a still more satisfactory interval. It is obvious that if nothing further is known of the dog that has bitten a person, or he has been instantly after killed, the prudent and proper course to take is, to treat the wound as if the dog had been known to be rabid. Unless a dog is chained, or has been provoked, the fact of his snapping and trying to bite, to a certain degree is presumptive that he is rabid, or going into that state. Again, supposing the dog to become rabid after a week or month, or supposing that the dog was certainly rabid at the time he inflicted the wound, and that no step has been taken for the same period, what course is to be pursued?—This leads us to the consideration of the treatment proper to the second period, the interval.

II. The part should still be removed, if it is possible to estimate the extent of the original wound, and practicable to remove it.

Hydrophobia has never occurred in cases where there is evidence that the bitten part has been freely and completely excised before the supervention of the symptoms; and some very persuasive cases there are—not entirely conclusive, it must be admitted—that go to show that the excision of the bitten part some time after it has been healed is a preventive. Thus a dog on the same day bit a child, and subsequently a man, who immediately destroyed the dog. A few weeks afterwards the child was attacked with hydrophobia, and died. After the child was seized with the symptoms of hydrophobia, the bitten parts on the man, which were on the arm that was bare at the time he received the wounds were cut out by Mr. Hodgson, and the man escaped, (*Travers's Further Inquiry*, &c. p. 411).

Beyond two or three months, however, one would not extend the rule. In propor-

tion to the length of time from the wound beyond that period, one would argue the probability of infection, as well as of the efficacy of excision, to be jointly diminishing.

Nevertheless the initiatory stage of hydrophobia manifesting itself, and pain and shooting being felt in the cicatrix, it would still be judicious practice to remove it.

III. As soon as hydrophobia has declared itself, the tables are turned. We have failed to prevent it, and our hopes of now arresting the disease are checked by the reflection, that no means hitherto tried have saved a patient; and by the still more ominous fact, that no patient has been known even to have recovered accidentally. Nevertheless one can discover no impossibility of a favourable issue in the nature of the case; and one or two trials, which have been made of new means in this and a kindred affection, have produced a sufficient glimmering of benefit to encourage their repetition. The trials alluded to have not been simply empirical, but were made in the best spirit of rational medicine.

The disease consists in a peculiar excitement of the nervous system, of sudden super-vention. Now it is reasonable to expect that lessening the force of the circulation, and the exhibition of drugs which tranquilize the nervous system, should, one or other, or both, serve to allay such excitement; but both plans of treatment have been already pushed to the utmost, so that in some cases it has been doubtful whether the patient died more from the disease than of the remedies. There are limits beyond which bleeding cannot be safely carried; and the narcotic remedies hitherto tried — opium, stramonium, hydrocyanic acid — are not purely narcotics, but have other and indirectly injurious effects. Thus an animal, in which consciousness and breathing have ceased through the action of opium or prussic acid, can never be resuscitated.

But there are means of modifying the two methods, so as to allow of further efficacy being given to them, without incurring the dangers adverted to.

1. The first suggestion, made and acted on by Magendie, is not so much to lessen the quantity of blood, as to reduce its quality; and this he proposed to effect by injecting warm water into the veins. He had previously made trial of this remedy upon a rabid dog, when it was found to have the effect of calming its ferocity. A further and much more promising result occurred in a human patient already in the third or excited stage of hydrophobia. Upon two pints of warm water having been injected, and the arm being bound up, the patient gradually became calm. The pulse dropped from 150 to 100; then to 80; the convulsions entirely stopped, and he drank a glass of water without diffi-

culty. His mind became collected; he asked to see his relations; talked of his affairs; resumed his courage, and entertained hopes of recovery: but his condition was remarkable: he was tremblingly nervous. “*Tous les mouvements de la vie nutritive, les contractions du cœur, la respiration, la parole, &c. se faisaient avec un tremblement rapide. Quand on touchait un muscle quelconque, on le sentait agité du même tremblement.*” What was favourable in his state, however, was soon disturbed by hæmorrhage from the bowels, by painful tumefaction of several joints, and by tenderness of the abdomen near the cæcum; his mind too became again excited, upon his learning that he had had hydrophobia, and was then the subject of an experiment. He sank on the eighth day after the injection of water into the veins. On inspecting the body, the cavities of the swollen joints, the knee, the elbow, and wrist, of the left side, were found full of pus, with the synovial membrane in a high state of inflammation (the vein through which the water had been injected was a vein of the right arm). There were likewise some superficial recent ulcerations at the junction of the ileum and cæcum. The blood was liquid, and in a state of putrefaction, with development of gas that distended the heart, and produced sub-peritoneal emphysema of the stomach and intestines (Magendie’s Journal, tom. iii. p. 389).

One sees nothing in the fatal termination of this case to discourage the repetition of the experiment. The patient evidently died of that condition of the system now familiar to us under the name of acute phlebitis. In cholera, when a like practice was tried, several of the patients *so cured* died afterwards of the same disorder; but many escaped it. One woman, who was afterwards a nurse in the Middlesex Hospital, had been a nurse in a cholera hospital; she had there twice had cholera, and twice the veins had been injected with hot water containing common salt and carbonate of soda. The experiment in hydrophobia would probably admit of being advantageously varied by the admixture of different salts with the water.

II. A second promising experiment is the trial of the pure narcotic which exists in the woorara poison. Sir Benjamin Brodie ascertained that the influence of the woorara is so exclusively limited to the nervous system, and is so free from indirect deleterious agency, that if, in an animal poisoned with it, when consciousness and breathing have ceased, artificial respiration is maintained, and the blood thus mechanically aerated, after an interval the nervous system rallies from the shock and resumes its functions; and the animal is again alive and well. Professor Sewell applied his knowledge of this

remarkable fact to the treatment of tetanus in horses. A horse with tetanus having been thrown into a state of suspended animation by woorara was resuscitated by artificial breathing, when the tetanus was found to have disappeared. The animal, however, died within a few hours, as it was supposed, from over repletion. The tetanus had not reappeared.

Here, then, we have a narcotic the dose of which may be gradually pushed to any extent, at all events in trials on animals. For if carried so far as to interrupt consciousness, the animation suspended may with certainty be restored. It is needless to suggest what complete preparation beforehand, and what nicety of execution at the time, would alone justify a surgeon in hazarding this experiment upon a human patient, whatever weight we give to the fact that the case, without some bold experiment prove successful, is utterly hopeless.

I would venture to recommend to those under whose care cases of hydrophobia may fall, and who have not the means at hand of trying either of these experiments, to repeat Dr. John Hunter's of giving arsenic, but in much larger doses. He gave an eighth of a grain every two hours: half a grain every half hour might be of use, though the smaller dose failed. Else mercury to salivate.

OBSERVATIONS

ON THE

THIRD STAGE OF LABOUR.

To the Editor of the Medical Gazette.

SIR,

SHOULD you consider the following practical observations on the third stage of labour of sufficient importance for a place in your journal, you will oblige me by inserting them.—I am, sir,

Your obedient servant,

ROBERT ROBERTSON,
Lecturer on Midwifery, University
and King's College, Aberdeen.

Dec. 14, 1841.

In the practice of midwifery, and more particularly in the management of the third stage of natural labour, the novice of our art generally finds himself very much perplexed and disheartened from the time which he is compelled to wait in anxiety for the exclusion of the secundines after the birth of the infant. On more occasions than one I have been called on, both by practitioners and midwives, to extract the placenta three or four hours after the birth, when I have invariably

found it lying in the upper part of the vagina. Not very long ago, I was sent for to a case of this description, where a medical gentleman was in attendance; the woman had been delivered about three hours, and the friends becoming anxious about her I was requested to see her. I inquired if there was any flooding or sickness, and was told there was nothing of that nature. I then went shortly after to visit her, when I found the placenta lying at the os externum, and brought it away easily.

Believing, as I do, that a very great deal of ignorance prevails amongst beginners in the practice of our art, attributable, in a great measure, to the instructions they receive from the best authors on our science, and from their want of practice, under these circumstances I have thought it proper to lay before your readers a brief summary of the rules given in such cases by the first masters, and shall endeavour to show how far these rules have corresponded with my observations in practice. It is to be feared, that in a great many instances these authors have followed and copied from each other, without giving themselves the trouble to observe for themselves, notwithstanding the great opportunities they possessed of acquiring information personally on the subject.

I shall confine myself to the rules laid down by the most recent authorities; and first, we shall take Dr. Burns. He says, page 375, "The woman, after the delivery of the child, feels quite well, and expresses, in the strongest language, the transition from suffering to tranquillity. But in a short time, generally within half an hour, one or two trifling pains are felt, and the placenta is expelled, which completes the last stage of parturition." Dr. Hamilton (Practical Observations, page 157) says, "After the birth of the infant (in natural labour) there is generally a suspension of uterine contractions for some time, varying from ten minutes to half an hour, during which the portion of the navel-string left adhering to the placenta on detaching the infant remains unchanged. By and by the patient complains of a griping or grinding pain, and, on taking hold of the cord, it will be found distended with blood (provided a ligature had been tied round it), and to have become

lengthened. These circumstances generally indicate the separation of the placenta from the surface of the uterus, and warrant the aid of the practitioner." Dr. Gooch (*Compendium of Midwifery*, by Mr. Skinner) says, page 155, "If, in five or ten minutes after the birth of the child, the patient experiences slight pains reminding her of those she has already suffered, and, on placing your hand on the abdomen, you feel the uterus contracting and hardening, by this you may be assured the uterus is acting: wait, then, until the uterus has made a few efforts to separate and expel the placenta; these efforts are generally attended by a moderate discharge of blood, but not always, for the membranes may entangle and retain it." Dr. Ramsbotham, in his *Principles of Obstetric Medicine and Surgery*, says, page 182, "We may employ ourselves in the patient's room for five or ten minutes, if we choose, or we may withdraw into another; but we must, on no account, leave the house so long as the afterbirth is unexpelled; and we must not be many minutes absent from her side lest a sudden attack of hæmorrhage should occur, and only be detected on the supervention of syncope."

From the foregoing observations we are led to infer, that in every natural labour a certain interval of time, varying from ten minutes to half an hour, elapses between the birth of the child and the expulsion of the placenta, and that a certain amount of pain is experienced also.

About ten years ago I was led to pay some attention to the third stage of labour, and was myself not a little puzzled by the length of time which sometimes elapsed before the placenta was expelled from the vagina, which led me to make some observations which, I trust, may be useful to beginners. About eight years ago, I established a lying-in dispensary in connection with my class; the patients were attended by my pupils along with myself, where upwards of one thousand women have been delivered, and I have invariably pointed out to them at the bed-side, that the same contraction of the uterus which expelled the shoulders and body of the infant expelled the placenta into the upper part of the vagina, and have instructed them to withdraw it. I have been myself

in the practice of making a vaginal examination immediately after the birth of the infant, and I have, with very few exceptions, found the placenta lying in some part or other of the vaginal cavity. I always instruct my pupils to lay their hand on the abdomen immediately after the birth, and feel if the uterus is well contracted, about the size of a foetal head, round, hard, and resisting; and by paying attention to the recommendations laid down by Dr. Ramsbotham in his valuable work on *Midwifery*, page 179, where he describes the different degrees of contraction of the uterus which are to be found after delivery, a person who has had but a very limited degree of experience may be enabled to tell almost with certainty, by applying his hand on the abdomen, whether or not the placenta be still in the uterus or lying in the vagina. I shall now offer a few remarks on the treatment of the third stage. By some, we are recommended (see Dr. Denman, 4th edit. page 271), not to withdraw the placenta even from the vagina, but to wait for its natural extrusion by the muscular powers of that organ, under the belief that its continued residence in the canal will stimulate the uterus to more perfect and complete contraction, and thereby further the prevention of hæmorrhage. With this opinion and practice I entirely disagree. Every woman, after the birth of her infant, feels more or less anxiety of mind until the afterbirth is expelled, and not without good reason, for it is well known to the profession that so long as it remains unexpelled she is in danger from an attack of hæmorrhage. I would therefore strongly recommend, that if the uterus is thoroughly contracted, and the placenta in the vagina, that it should immediately be taken away; if it is allowed to remain in the vagina any time, should hæmorrhage come on it will act as a plug and conceal it, and prove as surely fatal as if it flowed externally. I have been called to one or two cases of this description where the patient has been thought to be in a faint, but, on my arrival, have found her *dead*. Some there are, who, following the rules laid down in books, wait for pains coming on before they proceed to do anything, without examining either the abdomen or per vaginam. Now in cases where it is

the first labour the woman has had, they may wait long enough; for assuredly no pain will be experienced in the majority of cases, if at all. So that if the uterus is contracted properly, and the insertion of the cord can be felt, it should be removed immediately in the following manner:—Holding the funis with the left hand, insert two or three fingers and thumb in the form of a cone into the vagina along the cord, grasp the placenta with the fingers, and bring it away. By encircling the mass with the fingers it is very easy to discover whether or not any part is adherent, and puts the patient to far less pain than the practice I have frequently seen adopted of poking in the vagina with the fingers alone, and hooking it down, or pulling and jerking at the funis like a bell-rope. I may further mention, that if this stage of labour was properly conducted along with the second, we should far seldomer meet with cases of uterine hæmorrhage of so appalling a nature after delivery, as we are accustomed to do: in my practice I have but half a dozen times met with cases of this kind, and these occurred chiefly in twin cases; and had the uterus been compressed immediately on the birth, this, very likely, would not have happened; neither would we meet with cases of hour-glass contraction of the uterus, which is another occurrence arising from mismanagement of the second stage: in all my practice, consisting of upwards of 1200 cases, I have never met with a case resembling what is called hour-glass contraction. I have been called, on several occasions, by my professional brethren in consultation, where the placenta has been incarcerated in the uterus and the os uteri closed. The last case of this kind occurred during last summer. A medical friend called on me and requested me to see a young woman who had been delivered of her first child the evening before, as the placenta had been retained by hour-glass contraction. He had administered to her during the night two large doses of Tinct. Opii, and bled her largely, notwithstanding which he could not get a finger introduced within the stricture, as he termed it. I went along with him, and made a vaginal examination, and found the funis running though the os uteri, and it quite close and firm. Having introduced one

finger, I insinuated another and another, till I got the whole hand in, but not without considerable pain to the woman and difficulty to me: in a very short time I brought the whole mass away: the cord, which had suffered previously a good deal of pulling, gave way before I got hold of the mass. The woman afterwards did well, and was about her usual employment in the course of three days; the infant had been still-born. Several cases of the same kind have come under my observation; and in some, where the parties in attendance have left the mass in utero because they could not get it away, the patients have invariably fevered, and have had very narrow escapes of their life, the putrified mass coming away at intervals. From what I have observed in practice in these cases of incarcerated placenta, or hour-glass contraction, as they are called, I am quite convinced of the necessity of the immediate removal of the placenta when circumstances are favourable; for the tissues, the os uteri, and vagina, contract very shortly after delivery, and any attempts to introduce the hand into them afterwards create a considerable deal of pain and annoyance. I might cite a number more instances to shew the necessity of making the uterus contract as speedily as possible after delivery, and extracting the placenta when detached from its connection with the uterus, but I have already encroached too much on your columns. I shall only briefly mention in conclusion, that in all my practice I have had occasion but four or five times to carry my hand into the uterus for the placenta, where actual adhesion had taken place attended with hæmorrhage; so I look upon it as an accident of very rare occurrence.

ON
BLOOD-LETTING IN MANIACAL
EXCITEMENT.

To the Editor of the Medical Gazette.

SIR,

THE following remarks have been suggested to me by a paper on "Excited Intellect and Mental Delusion," by Dr. Searle, of Bath, which appeared in the MED. GAZETTE of Nov. 12th, but which, from accidental circumstances, I had not

an opportunity of perusing till within the last few days. That paper, though very ingenious and able, contains some views to which my experience—such as it is—in the treatment of insanity, prevents from me subscribing; and, therefore, as the subject is undoubtedly of very great importance, should you consider these observations deserving of a place in the pages of your excellent journal, I shall feel obliged by their insertion.

In the outset I may state, that I agree with Dr. Searle, that mania, and indeed all the forms of insanity, are fit and proper subjects of medical treatment; and that moral treatment is only to be regarded as an auxiliary, though, when judiciously employed, a powerful and beneficial co-operating aid. Such is the result of my experience of the system of treatment pursued in this institution, where, although moral means are employed to the utmost available extent, they are never allowed to usurp that exclusive attention, to the neglect of medical remedies, which Dr. Searle considers to be a common error on the part of those who, at the present day, are more specially occupied with the treatment of this class of diseases.

That the physical state of the brain in insanity is deserving of the closest attention, in reference to the therapeutic means to be employed, there can be no doubt; nor am I disposed to call in question the accuracy of the statement, that “determination of blood to the head, terminating in insanity, is a common effect of intense excitement of the mind, whether gradually or suddenly induced.” But it appears to me that Dr. Searle has not correctly appreciated the nature of that determination as it most frequently occurs in insanity; and that he has consequently been led into error as regards the plan of treatment which he has proposed. There are two states of the brain resembling each other in several respects, both in their physical symptoms and in the abnormal mental phenomena which accompany them, but yet widely different in their nature, their pathology, and their treatment. These two states are active inflammation of the brain and its membranes,—the encephalitis of systematic writers, and the cerebral excitement which characterises acute mania. In both cases there is a derangement of the mental functions,

and an unequal and disordered manifestation of the mental faculties; in both cases, too, there is an increased determination of blood to the head; but the circumstances under which this occurs are so dissimilar in the two cases as to suggest very different, and not unfrequently, opposite modes of treatment. In encephalitis, properly so called, this determination is of a purely *active* character: it is the determination which takes place towards an organ in a state of high and active inflammation, and the general fever, the flushed face, the contracted pupil, the intolerance of sound or light, the frequent and hard, or soft, full, and sounding pulse, leave us in little doubt as to either diagnosis or the treatment. Here depletion—immediate, full, and fearless—is evidently the means on which, in the first instance, we are to rely.

But the cerebral excitement, which may be looked upon as the cause of the aggregate of symptoms termed acute mania, is, in general, marked by very different characters. Here, too, we have, to be sure, in many cases, the symptoms of vascular determination to the head; the heat of scalp, the pain of head, the throbbing of the arteries, all attest its presence. But we have not the same intensity of general fever, nor the same evidences of active inflammation. The pulse is, as Dr. Searle rightly remarks, “more frequently weakly, irritable, or oppressed, than indicative of active inflammation; and the pupil (a point of great importance) is not, as he states, generally contracted; for with such a pulse in mania a contracted pupil is rarely associated, but dilated often to a great extent, and the tongue is frequently tremulous. In fact the whole *ensemble* of the symptoms indicate, in general, a cerebral state very different from active inflammation; a state more allied to that so well described by Dr. M. Hall as the result of loss of blood, or to that sometimes produced by intoxication, in which the evil effects of depletion have been more than once verified by experience, and warrant us in concluding that the vascular determination is accompanied by a *loss of tone* in the vessels, and in all probability a functional alteration of the brain, which, though it can neither be revealed by the scalpel, nor discovered by the microscope, and in

many cases is the result of sympathetic irritation—is the first link in the chain of cerebral phenomena produced. That this determination is no proof of inflammatory action, but, on the contrary, sometimes at least, the result, or, at all events, the concomitant of a diametrically opposite state, is aptly illustrated by its being often present, in a marked degree, in puerperal mania following, and induced by, nervous exhaustion and excessive flooding. Without, therefore, going the length of saying, that in no case of acute mania is general blood-letting admissible, still less asserting that there are no cases in which a judicious and cautious local abstraction of blood, by means of leeches or the cupping-glasses, is advisable, I have no hesitation in maintaining that the abstraction of blood, even locally, is the exception and not the rule of treatment. Above all it must ever be borne in mind, that the mere fact of there being determination of blood to the head affords, of itself, not the slightest apology for the use of the lancet; and as for the truly Sangrado plan advocated by Dr. Searle of bleeding in such cases *ad deliquium*, and that too “not with reference to the state of the pulse so much as to the state of mental excitement or delusion evinced by the patient,” I suspect that he will find very few practitioners, who have had extensive experience in insanity, who will venture to follow it; and I am now more than half inclined to conclude that he himself has been led to propose it rather from theoretical preconceptions than from having made actual trial of it.

In these observations I have referred solely to the cases of acute mania; because it is that form of mental disease, in which, from the violence of the general excitement, and the frequent presence of the signs of determination to the head, those who have not been much in the habit of treating the insane are most apt to have recourse to the dangerous aid of the lancet. But in cases of a more chronic character, where the excitement is more moderate, and the symptoms much longer in developing themselves, general blood-letting is also, I believe, very rarely admissible; and even local blood-letting much less frequently efficacious than those who are not accustomed to treat cases of this

description might be inclined to suppose. In such a case, for example, as that mentioned by Dr. Searle in his paper, where we find an intellectual and studious man, of a highly excitable and nervous temperament, after exhausting himself by mental exertion and anxiety, beginning gradually to display a change of disposition and conduct; at first, perhaps, seeming only a little flighty, irritable, or hurried; and then passing through all the various shades and degrees of eccentricity till he arrives at palpable delusion and downright madness, blood-letting to any extent must be injurious: and he must be a bold practitioner, and one whose courage goes considerably beyond the verge of rashness, who would, in such a case, bleed *ad deliquium*. In the case referred to, indeed, the patient was *not* bled; he recovered by the use of other remedies, two of which—antimonials and purgatives—I have frequently seen very beneficial in similar cases: and I cannot help thinking that it was most fortunate, both for him and his physician, that he obstinately refused to be bled.

Nor can I agree with Dr. Searle that, had his plan been pursued in the case of the celebrated Edward Irving, the mental aberration of that distinguished individual might have been prevented. I have no doubt that, had it been put in active operation, and long enough persisted in, it is probable that his insanity might never have been displayed as it was; the new sect might have been nipped in the bud, and the intellects of many who fell victims to the contagion of religious enthusiasm might have been spared; the extravagancies of the Caledonian Chapel might never have been enacted, and the unknown tongues never promulgated; but it would have been, in all likelihood, only because the treatment employed would have cut short the reverend enthusiast's mortal career, or consigned him to the melancholy alternative of chronic dementia.

I shall now briefly advert to the evil effects to be dreaded in mania, and indeed in every form of mental disease, from depletion. They are principally the following four:—

1. Increased determination of blood to the head, with diminution of the previously enfeebled tone of the vessels, and increased nervous irritability and

excitability — symptoms which generally accompany the reaction following depletion when practised in unsuitable cases; a consequent increase of the physical and mental excitement; and that too when depletion, by lowering the general powers of the system, has rendered the constitution less able to support it, and thus paved the way for subsequent dangerous, or even fatal, exhaustion.

2. A change of the character of the malady (preceded or not, as the case may be, by this exasperation of the first symptoms) inducing a more chronic form; so that, what was at first a case of acute, and probably, if rightly treated, transient mania, passes into chronic mania, or tedious melancholic depression, the issue of either of which will, in all probability, be protracted, or even incurable, dementia.

3. The serious accident of effusion, should any tendency to that exist, as in such cases it not unfrequently does.

4. Impairment of the bodily health, consequent on active depletion practised at a time when the constitution could ill bear it; an impairment which must re-act most unfavourably on the state of the mind, and the effects of which may continue to be felt even after the latter is restored to sanity.

But it may be asked, in what case is the abstraction of blood admissible? With regard to general blood-letting, I repeat that it is very rarely indeed that it can be either indicated or justified. Most of the cases, I believe, in which it has been tried with beneficial results, would, were we in possession of sufficient details, turn out to be cases in which there was inflammation of the brain or its membranes, of a more or less acute character; cases, in short, of encephalitis, in which some of the symptoms were perhaps slightly modified by accidental circumstances or individual peculiarities. Such cases occasionally find their way within the walls of institutions devoted to the treatment of the insane, and by the hasty or inexperienced observer may readily be mistaken for acute mania. There are, however, certain cases, both of mania and other forms of insanity, in which there is an evident congestion of the vessels of the head; where the pulse is firm; the pupil contracted; where every thing leads us to believe that the congestion is of an *active* not a

passive character; where there is no reason to fear a want of vascular tone or apprehend effusion; and in such cases the judicious application of leeches or the cupping-glasses is calculated to be highly beneficial. Even when the congestion is of a more passive character, and where the veins of the scalp are full, tumid, and tortuous, a very moderate and cautious employment of local blood-letting may be serviceable; although in this last case the safer expedient of dry cupping on the nape of the neck, and along the course of the spine, will be frequently found to answer the end as well.

The above views I am aware are not in conformity with those which are taught by several eminent lecturers and systematic writers on medicine; but they are those which an ample opportunity of observing the effects of various modes of treatment in insanity has led me to adopt. Much of the misconception that has arisen on this point, as well as on others connected with the subject of insanity, is doubtless to be attributed chiefly to two causes; first, unwillingness on the part of those at the head of establishments for the insane to lay a sufficient number of facts before the public; and, secondly, the total destitution of the means of clinical instruction in this important class of diseases. Both these causes of error seem now, however, likely to be speedily removed: and we may thus indulge a hope that ere long more extensive, accurate, and practical information on the interesting but intricate subject of insanity, may be diffused through all classes of the profession.—I am, sir,

Your obedient servant,

J. CRAWFORD, M.D., M.R.C.S.L.,
House Surgeon to the Royal Lunatic
Asylum, Glasgow.

Glasgow, Dec. 4, 1841.

THE VACCINE VIRUS.

To the Editor of the Medical Gazette.

SIR,

I HAVE been induced to send you the following desultory observations on the effects of the vaccine virus, satisfied that they will, to a certain extent, account for the many failures arising, it is said, from its having lost its power, and, in consequence, become insufficient to render the persons secure through

life from the infection of small-pox. The deterioration of the virus, I believe, never is the cause of failure. I have found that the want of success arises most frequently from operating before the pock is perfectly matured. Out of 100 cases, I vaccinated 50 on the eighth day and the remainder on the ninth. Of the first half I had to repeat the operation twice in seven cases, while in those done on the ninth day I had only to repeat it in one case: than which no stronger proof can be had of the advantage of having the virus of a proper consistence (not watery) before it is used.

The age and constitution of the child, and the season of the year, have also much to do in modifying the virus. In some children you will have the pustule fully matured in seven days, while in others it will take nine to complete it. In our Vaccine Institutions it is common to use the lymph on the eighth day,—a most injudicious practice. You cannot promise that lymph will be fit for use on such a day and at such an hour; and I have not unfrequently seen it on the eighth day taken from a mere pimple, and before the virus was at all matured. You have, as the result of this, modified small-pox, and, in peculiar constitutions and weak and unhealthy habits, the disease in a more aggravated form.

The seasons have also an effect either in retarding or hastening its progress. In summer, the pock will come to maturity sometimes forty-eight hours sooner than it will do in winter. During the last three months, in this quarter there has been an unusual degree of moisture in the atmosphere, depressing the vital powers, and producing numerous lingering and very unmanageable diseases; and for the same period, I have particularly noticed the remarkable effect the weather has had on the vaccine virus; for sometimes I have not seen what I would call a properly matured pustule until the ninth, and sometimes not until the end of the tenth day.

Another cause of failure is, to vaccinate too early. Children are brought to Vaccine Institutions frequently about the end of the second month: this is by far too young: my practice is to vaccinate between the fourth and sixth months; and I may add, from some experience, that the older and healthier

the child is, the greater is the security through life.

Fully convinced of the prophylactic power of the vaccine lymph, however old it may be, and satisfied that most, if not all, the failures arise either from the constitution of the child from whom the virus is taken, or from some mismanagement on the part of the operator, I have been induced to request your insertion of these observations, adding this, my testimony, to that of many more able and experienced contributors whose articles on the same subject have occasionally appeared in your very useful and impartial journal.

I am, sir,

Yours obediently,

JOHN PATERSON, Surgeon.

Aberdeen, Nov. 25, 1841.

CASES WITH OBSERVATIONS.

By C. M. DURRANT, M.D.

Ipswich.

(For the Medical Gazette.)

CASE I.—*Paralysis in connexion with Hepatic Derangement.*

A widow lady, æt. 74, and very feeble, was suddenly seized, Oct. 5th, 1841, with difficult articulation and vomiting, followed by complete paralysis of the lower extremities. On removal to bed, to the above symptoms were added loss of sensation and motion in the arms, together with deprivation of speech and consciousness, unless when loudly questioned, when an occasional abrupt and unconnected answer was elicited. She has previously been the subject of two somewhat similar attacks. Pupils natural; tongue coated posteriorly, apex and edges clean and pale. No uneasiness evinced on firm pressure on the abdomen and hypochondria; bowels naturally very sluggish; respiration unaffected; pulse 85, small; hands and feet cold. Ordered,

R Ol. Terebinth. ʒj. ; Ol. Oliv. ʒij. ; Decoct. Aven. ʒx. M. st. injiciend.

R Pil. Hydrarg. gr. v., c. Haust. Sennæ et Magn. Sulph. st. sum. et secund. hor. rep. donec alvus bene responderet. Hot water bottle to feet.

10 P.M. — Enema returned immediately, without fæces. Medicines have operated freely; evacuations dark, very fœtid, and passed unconsciously; pa-

tient answers questions more readily; has drank a cup of tea. Ordered,

R Hydrarg. Chlor. gr. j. h. s. s. Haust.
Aper. p. m. s.

Oct. 6th.—Has passed a good night; bowels have acted freely and voluntarily; motions still blackish green, and very offensive. Has taken tea and toast for breakfast; answers questions readily; pulse 75. Has regained the use and sensibility of arms, but not of legs; skin warm.

R Decoct. Aloes Co. ʒiiss.; Mist. Camph. ʒiiiss.; Tinct. Cardam. Co., Syr. Zingib. aa. ʒss.; Ammon. Sesquicarb. ʒss. M. coch. duo mag. quart. hor. sum.

R Hyd. Chlor. gr. j. h. s. s.

7th.—Has slept well; can use limbs as freely as she did before the attack; tongue cleaner; bowels have acted twice; motions continue dark and foetid; slight dysuria; pulse 68; skin comfortably warm. Complains much of the medicine griping.

R Ammon. Sesquicarb. gr. iij.; Inf. Calumb. ʒij.; Mist. Camph. ʒv.; Sp. Æther. Nit. mxx.; Syr. Zingib. ʒj. M. ft. haust. quartis hor. sum. Rep. Calomel. h. s.

R Mag. Calc. gr. xv.; P. Rhei, gr. x.; Aq. Ment. P. ʒvij.; Tinct. Card. Co. ʒss. M. p. m. s.

To have weak mutton-broth.

8th.—Much better in every respect; and from this period the improvement was progressive, and recovery complete; the evacuations gradually resuming a normal appearance.

OBS.—Cases similar to the above are of exceedingly frequent occurrence; and as the attack in general is sudden, and the appearance of the patient alarming, the medical attendant is called upon not only to exercise the utmost promptitude and judgment in the selection of his remedies, but to summon, at the same time, his greatest firmness and decision, in order to combat successfully the prejudices and mistaken views of the surrounding friends in favour of blood-letting.

Indiscriminate bleeding is now much less extensively employed than formerly, when the doctrine of compression of the brain or spinal marrow was considered as the almost sole cause of apoplectic and paralytic seizures. Nevertheless, I am inclined to think that bleeding in affections of the brain, in aged persons, is still in many instances

too hastily adopted, and often tends not only to render recovery extremely protracted, but in some cases has appeared to hasten the fatal event, or at least given permanency to the paralysis.

It must be conceded, however, that depletion, even in patients beyond the age of 65 or 70, is sometimes undoubtedly called for; and in these instances small bleedings, repeated at regular intervals, are safer than a single large bleeding at the commencement of the attack.

The practice of depleting by leeches from the hæmorrhoidal vessels, in this and other diseases, is becoming much more general than formerly; a practice totally free from the objection occasionally urged against it, viz. that from the nature of the parts, and the unpleasantness of the application, neither patient nor friends would submit to its employment. In this I may say with my friend, Dr. Hughes, who strenuously recommends this practice in the treatment of the dysentery of this country (MED. GAZ. Dec. 1839):—"I have never yet known a single example of a patient's declining to adopt it."

In referring to Dr. Holland's excellent paper on "Bleeding in Affections of the Brain," I find the following:—"Bleeding by leeches from the hæmorrhoidal vessels might be much more frequently employed than it is in affections of the brain, as well as in those of the spinal cord. I know no mode in which a given quantity of blood can be removed with equal effect in the cases where this is required." (Medical Notes and Reflections, p. 49.) No other method certainly appears to me to act so speedily and permanently as this, in restoring the balance in the circulation. This practice especially obtains in those cases of apoplexy with or without paralysis, arising either from suppressed hæmorrhage, disorders of the pelvic viscera, or derangements of the hepatic or gastro-enteric apparatus.

Although foreign to the present subject, I may add, that in hypochondriasis of recent origin, having for its cause affections of the chylopoietic organs, the symptoms frequently yield immediately to local depletion from the hæmorrhoidal vessels.

The preceding remarks apply solely to bleeding in the apoplectic seizures of aged persons. In the treatment of

apoplexy generally, precisely similar measures will probably not obtain in two successive cases; judgment must alone decide; for in the words of Dr. Copland, "the skilful practitioner is guided in the treatment he adopts by considerations, circumstances, and appearances, which scarcely admit of description."

Emetics have been recommended by some authors in the treatment of apoplectic affections; but in the cases occurring in patients of an advanced age (concerning which alone these remarks are intended), except the attack occur immediately after, or can be distinctly referred to, a full meal, the propriety of administering emetics, as far as my limited experience of their utility in these affections extends, is very questionable. Far less doubt exists in the employment of purgatives; but in this also a judicious restraint is often needed, especially in reference to the systematic purging, formerly so prevalent, in all cases of apoplectic and paralytic seizures, without reference to age, sex, or other existing circumstances.

In all cases the unloading the rectum, by means of a large enema containing turpentine, is an important measure; and at the same time, or as soon as the power of deglutition is recovered, insuring a complete evacuation of the contents of the alimentary canal by medicines administered by the mouth. Should the ordinary aperient mixture, with calomel, fail, the draught recommended by Dr. Copland, viz. equal parts of the ol. terebinth. and ol. ricini, on the surface of mint water, may be advantageously prescribed. This, in the opinion of the talented author of the Medical Dictionary, "will promote a more complete revulsion from the head than any other means that can be employed," especially if assisted by aperients previously given, and enemata. The external and internal exhibition of croton oil is a valuable resource when the faculty of deglutition remains long suspended.

Blisters appear to act beneficially in exciting the depressed energies of the sensorium in old persons. In sthenic apoplexy, however, their application requires caution.

Stimulants are frequently required, and are perhaps of the greatest service when administered in combination with purgatives: their use requires great

judgment, and the circumstances of the case must alone guide their employment. It will not unfrequently be found necessary to support the vital energies by stimulants at the same time we are depleting the vascular system, in order to support the already diminished nervous energy, and maintain a just equilibrium in the circulation: the system at this advanced period of life being peculiarly unable to repair any undue exhaustion of nervous power.

A point of great importance in the treatment of apoplectic affections, is the maintenance of due warmth in the extremities. This is best effected by hot-water bottles to the feet, hot flannels to the hands and arms, with the occasional use of sinapisms and frictions, with stimulating liniments.

On the peculiar features of the case in question a few words will suffice. It is a good example of paralysis occurring in connection with hepatic disorder, depending not on diseases of the liver itself—an association, however, of extreme frequency—but, as was already demonstrated by the evacuations, on an accumulation of vitiated bile in the gall-bladder and biliary ducts.

In the present instance bleeding was not indicated; still, had the symptoms continued unabated, I should have ordered local depletion from the hæmorrhoidal vessels by leeches. A daily course of warm aperients, with diffusible stimuli, followed by tonic remedies, completed the cure.

Apoplectic affections, associated with hepatic derangement, constitute an exceedingly frequent complication, and one requiring the especial vigilance of the practitioner, since the abdominal affection being so frequently masked by the more prominent apoplectic symptoms, may, if overlooked, cause considerable, and occasionally irreparable, errors in the treatment.

CASE II. — *Incipient phthisis treated with emetics.*

Phillis Strowger, æt. 19, a servant, of sallow complexion and leucophlegmatic habit: has lost a brother from consumption, and she herself has been the subject of a winter-cough for two years. On presenting herself for examination about six weeks since, she stated she was much harassed with a severe cough and shortness of breath, which she attributed to cold: complained also of

soreness over the chest, with occasional "darting pains" between the shoulders; violent palpitation of the heart on the slightest exertion, which affects her also when in bed, and especially on first awaking in the morning; extremities generally cold; eyes dull, and surrounded with dark broad areolæ; head not painful, but subject to giddiness; tongue clean, pale, and indented with the teeth; appetite moderate; no thirst; bowels generally pretty regular; urine natural in quantity, depositing a lateritious sediment on cooling; catamenia appeared at sixteen, since which she had been very irregular, both in reference to quantity and period of recurrence; had considerable leucorrhœal discharge; pulse rapid; action of heart quick, jerking, and audible, over entire chest, otherwise normal; ribs under right clavicle did not appear to move so freely as on the opposite side, where also there existed slight dulness on percussion. I was unable to detect in this instance any flattening of the infraclavicular region. At the same spot the vesicular murmur was decidedly more feeble than under the opposite clavicle, together with a well-marked, prolonged, and roughened state of the expiratory sound; voice and cough shrill and acute, and more resonant than natural, under both clavicles, especially the right; could take a full inspiration without pain or increase of cough; had never had hæmoptysis, and did not expectorate; ankles swelled at night.

She was ordered a mild emetic every morning an hour before breakfast. Mist. Ferri Co. ζ i. ter die; a pill every night of Aloes, Ext. Conii, et Pil. Hydrarg.; and to sponge the chest freely night and morning with the turpentine and acetic acid liniment, as recommended by Drs. Stokes and Hughes.

After continuing the above remedies for a week, I added the following note. Cough greatly relieved; no expectoration; respiration much easier; vesicular murmur under right clavicle less rough, and nearly as loud as on the opposite side; pain in chest greatly benefited by the liniment; bowels open; catamenia still absent; leucorrhœa diminished: confesses in warm terms the relief afforded by the emetics. Ordered to continue their use on alternate mornings; to take two grains of iodide of iron thrice daily, and a pill

every night of Ext. Conii, Aloes, et Ferri Sulph. From this treatment the symptoms rapidly improved; and on discontinuing the treatment at her own request, the chest in every respect was perfectly normal. The catamenia, however, had not returned.

CASE III.—*Incipient phthisis with gastralgia.*

Mary Ann Death, æt. 26, a servant; of pale complexion; has for some years been subject to a winter cough. Complains at present of a severe, short, hacking cough, without expectoration; great pain over a considerable portion of chest, with "shooting pains between the shoulders;" also a continued pain in the epigastrium, greatly aggravated by eating, which she is almost afraid to do, except in very small quantity. States her father, mother, and brother, to be equally the subjects of winter cough. On examining the chest, the respiratory murmur, under the right clavicle, and in the acromial region, was more feeble and dryer than on the opposite side, though without the marked change in the character of the expiratory sound, so distinctly audible in the last case; resonance of voice natural. There was a perceptible difference on percussion in the two infraclavicular regions; but, as Dr. Hughes has remarked, it consisted in this instance "not so much in a diminution of the loudness, as in an alteration of the character or quality of the sound elicited." There existed no appreciable flattening of the infraclavicular regions, and the ribs, on a full inspiration, appeared to expand equally; pulse easily excited; tongue white, coated posteriorly; bowels open; menstruates regularly; has formerly been the subject of rather severe dysmenorrhœa.

She was ordered emetics daily, as in the preceding case, together with the turpentine liniment; also a mixture of Sodæ Carb. et Inf. Calumb. with the Pil. Aloe. c. Myrrhæ, at night.

In the course of from ten days to a fortnight the pectoral symptoms were so much diminished that the gastralgia, which was still very severe, became the principal source of complaint. On examination of the chest the physical signs of the disease, though still existing, were greatly improved. She was directed to continue the emetics on alternate mornings; to take five grains

of Pil. Rhei. Co. every night, and half a grain of the oxide of silver thrice daily. This remedy acted magically in relieving the gastralgia; and by continuing the use of the emetics at increased intervals, the physical signs of disease were so far removed that I was unable to detect any appreciable difference in the two sides. This patient also expressed herself in grateful terms for the benefit derived from the emetics.

OBS.—I have lost no time in extracting the above cases from my note-book, both because they are extremely well-marked examples of chronic phthisis in its incipient stage, and more particularly since they so well demonstrate the benefit derived from the continued exhibition of emetics; a treatment strongly advocated by Dr. Hughes, in a highly valuable paper published in No. 11 of Guy's Hospital Reports. Far be it from me to adduce two solitary cases as ground-work for the emetic treatment; but these being at present the first and only two cases in which I have as yet fairly tested this method, I am anxious to detail them, in the hope that others may be induced to adopt the same remedy, and subsequently make known the result of their practice. Dr. Hughes has prescribed the emetic treatment in from 120 to 150 cases of incipient phthisis: and adds, "Their uniform effect, with, I believe, a solitary exception, has been very materially to relieve, and in not a few instances entirely to remove the cough."

A few points of interest present themselves in the examination of the above cases, which may now be briefly considered. In the case of Strowger, the increase in the duration and intensity of the expiratory sound were particularly apparent; a local sign of great value in the diagnosis of incipient phthisis, especially when coexisting with the other physical phenomena peculiar to the early stages of this insidious disease.

I lately attended a case of acute febrile phthisis which terminated fatally, in which the expiratory sound was so loud as to be audible a considerable distance from the diseased portion of lung, completely masking the natural vesicular murmur. This sound at first consisted of a double whiff, which I could compare only to blowing twice forcibly and in succes-

sion, into a large empty shell: about a week prior to the patient's decease, this sound became treble, and continued till death. I was unfortunately unable to obtain a post-mortem examination.

The difference of expansion in the two sides of the chest is also a valuable sign in incipient phthisis; this was remarkably evident in the case of Strowger, on applying the expanded hands immediately below the clavicles during a deep inspiration. In reference to the occasional varying intensity of the vesicular murmur on the two sides of the chest, without other coexisting signs, I fully coincide with Drs. Stokes and Hughes, in attributing the difference in degree to a natural condition of the lung; and, as far as I have been able to remark, my observation agrees with that made by the former physician, viz., that when this natural difference exists independently of disease, the left lung yields the louder murmur: this is an important fact, and should always lead to a careful examination of the entire lung. When a sign of incipient phthisis, it will, in general, be confined to the upper portion of the lung. An examination of the acromial or axillary regions will sometimes remove the doubt.

In auscultating the voice, it is desirable the patient should speak in monosyllables, since the intonation caused by repeating a number of words in a sentence quickly, according to M. Fournet, affects, and, to a degree, frustrates the object in view. The plan I adopt, and which I can recommend, is, to request the patient to count the numbers one, two, three, four, repeating the last word four several times slowly in succession. By comparing the resonance accurately on both sides, a correct result will be obtained.

The flattening of the infra-clavicular region on one side is also a valuable symptom when it exists with other indications of phthisis; but as this condition of the part may present independently of disease, its value as a solitary sign is greatly lessened. For the purpose of determining the admeasurement of the two sides I again concur with Dr. Hughes, in preferring simple inspection. M. Fournet, in his late work, recommends for that purpose a piece of tape stretched from the nipple to the clavicle, and then comparing the difference in the intervening

space. In males, this practice may be tried, but in females, since we possess another, and equally correct, mode of obtaining the object, the method of M. Fournet, from motives of delicacy, I deem highly objectionable, independently of the fallacy likely to occur from a natural disproportion in the projection and contour of the two breasts.

The value of percussion as an early diagnostic sign of incipient phthisis, in its negative result, is by no means so important as the phenomena furnished by auscultation and inspection; still, however, when dulness does exist, it becomes a valuable test, and corroborates, in an especial manner, the conclusions already deduced. On this subject, I think the following direction by Dr. Hughes of considerable importance, a method I have since adopted, and of which I previously had neither seen nor heard, viz., "that the examination by percussion should be made during forced inspiration, and forced expiration, as well as during the ordinary degree of expansion of the chest, as by these means, consolidation, even when separated from the surface by an intervening portion of healthy lung, may be sometimes discovered."

The only other symptom I shall notice in Strowger's case is the greatly increased action of the heart, attended with the abrupt jerking impulse so common in functional affections of this organ; on which subject I have previously made a few observations (*MED. GAZ.*, June, 1840).

In the case of Mary Ann Death, the gastralgia is the only feature to which I shall allude. This distressing affection was immediately relieved and speedily cured by the oxide of silver. I have now prescribed this remedy successfully in several cases of gastralgia, and in one of very obstinate dyspepsia, induced by undue lactation, and on which no other remedy appeared to exert any permanent influence.

Farther and more extensive trials of this preparation are yet necessary, before it will be generally adopted by the profession. Mr. Lane believes the oxide to be unaffected by the free acid of the gastric juice. His opinion, viz., that the oxide is prevented permeating the cutaneous capillaries, and

consequently, that it is thus free from causing the casualty which sometimes, though very rarely, obtains from the administration of the nitrate, is ingenious, and, I think, probable. The emetic I have hitherto prescribed has been 12 grs. of P. Ipecac., and which, when taken an hour before breakfast, has fulfilled every intention, causing vomiting to occur twice or thrice. I direct half a wine-glassful of cold camomile infusion, to be taken immediately the vomiting has ceased; this imparts tone to the stomach, and prevents the distressing nausea which sometimes succeeds its operation.

Although emetics may and have been regularly administered for months, and even years, not only without injury, but with evident advantage, still, however, the selection of proper cases for their exhibition demands attention and judgment. Should symptoms exist contra-indicating their employment, these must be reduced by appropriate measures prior to the adoption of the emetic treatment.

On mentioning the above plan of treatment to some medical friends, it has more than once been suggested, that patients, more particularly those in the higher classes, would strenuously oppose the repeated exhibition of emetics: that such would be the case, in the majority of instances, I can easily imagine, supposing them prescribed without a due explanation of the object in view; but in a disease of such inevitable fatality as phthisis pulmonalis, if allowed to proceed unchecked, I deem it the duty of every physician to make known to the friends of the patient as much of the nature of the affection as will ensure not only the adoption of, but the steady perseverance in, the use of the remedy.

I have still a few observations to make on the remaining curative measures, which, to a greater or less extent, avail in the treatment of incipient phthisis; but these, together with the indications derivable from general symptoms, in the earlier stages of the disease, I must reserve for subsequent consideration. So strongly am I impressed with the benefit to be derived from the adoption of treatment, in the earliest appearance of consumption, that I really believe that hundreds, who now die annually in this country

of this distressing malady, might be saved, or at least their lives prolonged, by the timely detection and prompt treatment of the disease.

MEDICAL GAZETTE.

Friday, December 31, 1841.

“Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso.”

CICERO

MORE MAGNETISING IMPOSTORS.

WE had almost hoped that we should never again have had occasion to introduce this subject in its present form into our pages; nor, indeed, would we readily do so; but it is useful to consider it as a sample of the gross fallacies to which, in the uncertainty of medicine, we are exposed; and to point it out as showing the extent to which even honest men, and those, who, in other things, have seemed not incapable of forming a good judgment, may be deceived. Even now—notwithstanding the exposed jugglery of M. Lafontaine, the oft-repeated failures of M. Du Potet, and the constantly descending grade of the characters of their successors, a number of whom are still trying, by animal magnetism, to turn a dishonest penny—notwithstanding these things, there are yet in England believers in the very greatest of all the improbabilities of the art.

Persons of this class are not content with the admission which we, and many with us, will readily make, that by an influence upon the mind (which, if they please, they may call a magnetic influence) certain weak people may be thrown into a state of singular sleep or somnambulism, such as is only occasionally seen to result from other morbid causes: no, — they will have that this same influence gives the subject of it new powers of perception, both for present

and for future things; and, in a word, places them in an altogether new and different mode of being. How else, they ask, is it possible to explain the facts, the well-ascertained facts, the facts of which you may yourselves be eye-witnesses, in which persons see with their eyes blindfolded, and prophecy, and do other things utterly beyond the reach of ordinary power?

Now, on careful inquiry, these *other things* will be found very indefinite, and of a kind not admitting of any test of their sincerity. But the seeing without light, and with covered eyes, is something more nearly tangible—a fact which may seem to be confirmed or denied on the observation of others, and to which, therefore, as an ultimate test, both magnetisers and the incredulous are accustomed to resort. We confess, for our own part, that were a single fact of *clairvoyance* well established, that is, were any person proved, beyond the possibility of deception, to have seen without the light from the object seen having access to his or her eyes, we should at once give up all opposition to the doctrines of animal magnetism, and embrace them in all of what now seems their absurdity and falsehood. Nor do we think that any reasonable person can require more than one such fact to convince him at once of the superfluity of his present organs of vision, of the utter uselessness of all the knowledge acquired by their means, and of the perfect competency of animal magnetism to discern all the present mysteries of nature. Let, therefore, the magnetisers prove (in the strict sense of the word) one such fact, and their cause is triumphant—the prejudices of the ordinary and false sciences must at once and for ever be overthrown.

Such an admission as this may seem rash to those who are in the habit of thinking that whatever they hear, on

any subject, from people reputed to be honest, must be true, unless it is already proved to be false. These, who constitute perhaps the majority of mankind, perpetually have their minds unsettled by statements, which, as they say, they do not know how to disbelieve. In the matter of animal magnetism, for example, cases of *clairvoyance* are continually being described and talked of; and it is certainly not easy at first to detect any deception in them; nay, to a general observer it is impossible: how, then, it is asked by some, even of our profession, who, but for those "moral stop-gaps" to their prejudices, would be thorough believers—how can we refuse to accept these things for truth? Why, the safer course in this, and in many things which *primâ facie* are much less improbable, is to believe them false till their truth is rendered certain, or, at least, highly probable; to wait, with patient incredulity, till all chance of a detection of fallacy has passed by; or, at the most, to be content in doubting, and to doubt till the truth or the falsehood of the seeming fact is rendered sure.

It is a great comfort to a disposition of this kind—a comfort which more than repays all the inconvenience of doubt and disbelief—to find its incredulity justified by the frequent detection of such falsehoods as, abounding in medicine, continually lead astray those who are less slow in giving their assent to seeming truths. It was not without much self-satisfaction that, after hearing what was so hard to disbelieve, that it had convinced many of the possibility of a new power of vision in magnetic sleep, we found the whole scheme once more blown up by the searching investigations of some gentlemen connected with the *Gazette Médicale* and *Examineur Médical*, of Paris. The whole history of their inquiries is so illustrative of the necessity of incre-

dulity in all such things as animal magnetism, that our readers, we are sure, will thank us for a brief abstract of it.

These gentlemen, MM. Peisse and Dechambre, had already had some experience in detecting the contrivances necessary for seeing blindfolded; for they had found, by personal experiment, that the apparatus employed to close the eyes of Mademoiselle Prudence, a celebrated employée of M. Frappart, permitted them not only to be easily opened, but might soon be made to admit, through gaps at its corners, a sufficiency of light for all the purposes of ordinary, as well as magnetic, sight: and this they had proved with clearness enough to convince even M. Frappart, the magnetizer, himself. However, there remained, more difficult of detection, a young gentleman, named Calyxte, a very renowned patient of the renowned M. Recard, of whose extraordinary powers we some time since gave an account. He defied investigation; his facts had convinced crowds; his eyes were indubitably covered with a bandage that excluded from them every ray of light: yet he could see to read, to play cards, or to do any thing that other men can accomplish only with full access of light. To superficial examination indeed, and to such observation as could be made by any visitant of the theatre of his exhibitions, it was not easy to detect any unfair play: as soon as he was asleep his eyelids were held firmly closed till they were both covered with a thickish pad of wool; and then a handkerchief was tied over these close round his head: yet he soon called for cards and played with vigour, or read whatever was held to him. However, on looking more closely, it was evident that whenever the bandage was to be applied the convulsions into which his features seemed to be thrown when

the magnetic sleep began became very violent; and all the muscles of his face and head were firmly contracted when the knot was tied, so that when they relaxed the handkerchief was loosened too. Then, again, he had some unusual magnetic tricks of throwing himself back in the chair in which he sat, so as to strike his head against it; and after resting the knot of the handkerchief there for some time, he would gradually lift himself up again so as to tilt up a little the fore part of the handkerchief from before his eyes. After this he would sometimes rest his head upon his hand, and then, as if by an accidental start, displace the bandage a little more. These and some other things, hardly observable at first sight whether they were accidental or not, seemed essential to the success of the experiment, for the magnetic vision never commenced till they were accomplished: and, whatever was their real purpose, it was clear that they had a tendency, whether intentionally or not, to remove the bandage from that complete closure of the eyes for which it had been first applied.

However, passing by these as only rather suspicious, when they were finished the patient could see pretty well. It was noticeable, however, that he always reposed with his head laid rather far back—that he could not see any small objects unless they were brought close under his nose, nor any thing unless his head were fairly directed towards it—that small objects fatigued him and disturbed his magnetic repose—that he had a much clearer perception of well-known objects than of such as were new to him—in a word, his powers of vision seemed exactly like those of ordinary people, except that what they can see only with open eyes he saw with (it was supposed) his eyelids closely bandaged together. And here we may mention, that these circum-

stances regarding the size, position, &c., of the objects to be discerned, are conditions demanded by all those patients as essential to their *clairvoyance*. The objects to be seen must be in the light, within the distance, and within the field of ordinary vision; they must not be very minute, there must not be any opaque body placed between them and the bandage over the eyes, and the bandage must not be beyond a certain size, nor come lower down than the alæ of the nose and the hollow of the cheek. In a word, except for the bandage, all the circumstances must be the same as for ordinary vision.

The whole value of the experiment, therefore, depends upon the competency of the bandage to close the eyes, and however suspicious all the circumstances just mentioned may seem, though they may be sufficient alone to carry a conviction of unfairness to many minds, still if the patient were perfectly blindfolded, the truth of magnetic extraordinary vision could no longer be denied. What, then, is the fact in this respect? At the first moment of the application of the bandage, says M. Peisse,* speaking of the experiment made upon himself, the obscurity was complete; but after a few instants, and with the aid of some contractions of the muscles of the forehead and eyebrows, the bandage was hitched enough to perceive a moderately vivid light, sometimes to the right, sometimes to the left, sometimes on both sides, but always below the eyes, and especially at the parts near the nose, (in the parts, that is, where the magnetic (?) vision always seems most acute). If, by throwing one's self backwards on the back of the chair, (as the patient often did,) the part of the bandage which was behind the head was made, by pressing on it, to slip towards the back of the neck, that which was over the eyes was in

* *Gazette Médicale*, Nov. 21, 1841.

the same extent raised up. . . . But the main point was to gain light during the very application of the bandage, by rendering at the moment all the muscles of the face very tense, and then by relaxing them when the knot was tied. By this, apertures were at once established, so that the eyes could be easily opened and shut under the pads of cotton, and could by their own motions displace the obstacles before them.

Here, then, is another impostor exposed, and with him his master and accomplice M. Ricard, who has long been the most pertinacious writer on Magnetism in France. The assertions of such a man can, of course, never be again believed; he may henceforth be dismissed from all claim to consider-

ation. But surely his conviction may make every reasonable man suspicious of others who pretend the same things, and who, if they are not so dishonest as wilfully to deceive, are yet not so cautious nor so discerning as to avoid being themselves deceived. When we have the experience of such things as these, surely we may hold that no amount of assertion from any man should insure the acceptance for truth of any improbability in physiology, and that no degree of incredulity with regard to things which are not in themselves probable, should be considered unjustifiable till every imaginable source of error in the observation of them has been repeatedly excluded.

CAUSES OF DEATH IN ENGLAND AND WALES.

BEING EXTRACTS FROM MR. FARR'S
LETTER TO THE REGISTRAR
GENERAL.

THE deaths in the year 1839 were not so numerous as in 1838; but the number of

cases in which the causes were specified scarcely differed in the two years. In—
1838 the causes of 330,559 deaths were stated.
1839 „ 330,497 „

The coincidence arises from the cause of death having been more generally registered in 1839, for the total number of deaths in that year was 3550 less than occurred in 1838.

In 1838 the deaths were 342,529; the causes of 11,970 were not specified.
1839 „ 338,979; „ 8,482 „

It will be found, after making the corrections explained in your last Report for the increase of the population, that the mortality was lower than in 1838. The two great

epidemics of small-pox and typhus were on the decline; and the winter was mild, compared with the severe season of 1838.

The annual rate of mortality was—

Year.	Males.	Females.	Mean of the Two Sexes.
1838	2.28	2.12	2.20 per cent.
1839	2.23	2.07	2.15

The diminution in the mortality was 2.4 per cent. among males, and 2.6 per cent. among females, or exactly $2\frac{1}{2}$ per cent. in the two sexes; and it would probably have been more considerable had not the class of causes adverted to in your Report come into partial

operation in the two last quarters of 1839, though their more fatal effects did not begin to manifest themselves until 1840. This will be evident from a comparative statement of the deaths in the four quarters of the years ending—

	March.	June.	September.	December.
1838	98,114	90,810	72,791	80,816
1839	89,739	87,965	76,280	84,995

I shall have another opportunity of examining the influence of the seasons, and the prevalence of epidemics. The facts already adduced will shew why the mortality in 1839 was lower than the mortality of the preceding year, with an extremely cold winter, and than the mortality of 1840, when

distress prevailed in certain populous districts of the kingdom.

It was proved from the abstracts of 1838, that certain causes of death affected the sexes to a very different extent. The same facts were observed in 1839.

Hooping-cough is an epidemic disease,

and was less fatal in 1838 than in 1839 ; but the deaths from it of males and females were in nearly the same proportions. The agreement between the number of deaths from other causes—less liable to fluctuations—is remarkable.

The excess in the males who die violent deaths is to be ascribed to the dangerous nature of many of their occupations. The greater fatality to males of bronchitis, pleurisy, pneumonia, asthma, and some other diseases, will be perhaps justly considered due to exposure to the inclemencies of the weather. More boys than girls however die of pneumonia under 1 year of age, when this cause can have no influence. The differences of structure may explain the excess of deaths among males from hernia, stone, cystitis, nephritis, and, perhaps, from carcinoma. Intemperance, delirium tremens, gout, suicide, and almost all the causes of death which are the consequences of irregularities, vices, or crimes, are less fatal to women than to men.

The rates of mortality from each particular cause have been calculated in the manner described in the Appendix to the last Report, to which I refer as well for this, as for explanations and qualifications of some of the terms to avoid unnecessary repetition. It will be recollected that in all the calculations a correction is made for the increase of the population, and that the 8482 deaths, in which the cause was not specified, are assumed to have happened in the same way as the 330,497 in which the causes were registered.

The number of deaths from the class of *epidemic, endemic, and contagious diseases*, was 65,343 ; and the mean rate of mortality per 1000 by the class was 4.25 ; in 1838 it was 4.52. The decrease was in small-pox and typhus, 16,268 persons having died of small-pox in 1838, and 9131 in 1839 ; 18,775 of typhus in 1838, and 15,666 in 1839. On the other hand, 6514 children died of measles, and 5802 of scarlatina, in 1838 ; while 10,937 died of measles, and 10,325 of scarlatina, in 1839. Hooping-cough declined. Croup, thrush, diarrhoea, dysentery, cholera, influenza, and erysipelas, remained stationary ; none of them assumed the epidemic form. Ague rose from 44 to 95. In 1838, 16 males and 8 females died of hydrophobia ; in 1839 eleven males and 4 females perished in the same way. Out of a population of 100,000 of each sex, 432 males, and 418 females died of the epidemic class of diseases ; but when the comparison is instituted between the deaths alone the proportions are reversed ; in 100,000 deaths of males 19,368, and in 100,000 deaths of females, 20,189 were from the same class of diseases.

The mortality from diseases of the *nervous system* was 3.2 in a population of 1000 (500 of each sex) ; in 1838 the mortality by every disease of this class, except epilepsy, insanity, and delirium tremens, was higher. From an accidental circumstance too many deaths are ascribed to chorea in the present Abstracts ; the proportions were very nearly the same as in 1838. The diseases of the nervous system were 25 per cent. more fatal to males than to females, the rate of mortality among males have been 3.6, among females 2.8 in 1000.

90,565 persons died by diseases of the respiratory organs ; the class comprises 27 per cent. of the deaths ; and 59,559, or 18 per cent. of the deaths, the causes of which are specified, were by consumption. At the adult age, when consumption chiefly prevails, the numbers of men and women living are nearly equal, yet 31,453 females and 28,106 males died of this disease. The annual rate of mortality by consumption was, males .003722, females .004015 ; in 1838 it was—males .003783, females .004077, denoting a slight decrease, which was more obvious in the other diseases of the class. 659 deaths were ascribed to quinsey. This augmentation in the inflammatory affections of the throat was probably connected with the epidemic of scarlatina.

The number of cases registered as *diseases of the heart*, or of the *organs of circulation*, increased from 3562 to 3788.

20,767 persons are returned as having died by diseases of the digestive organs, namely, 3990 by diseases of the liver, 29 by diseases of the spleen, 4 by diseases of the pancreas, and 16,744 by diseases of the stomach and intestines. The mortality from this class was 1.351 in 1000 ; it was 1.287 in the year preceding. If we add the deaths from thrush (1019), diarrhoea (2562), dysentery (537), and cholera (394), to this class, it will make 25,279, which is to the deaths by diseases of the respiratory organs (90,565), after adding to them 8165 deaths by hooping-cough, 4192 by croup, and 887 by influenza, nearly in the proportion of one to four.

Diseases of the skin and *integumentary system* destroyed 420 persons in 1838, and 448 in 1839. The exanthematous fevers, with eruptions on the skin—small-pox, measles, scarlatina, and erysipelas—proved fatal to 29,787 persons in 1838 and 31,533 in 1839 ; when half the number (15,666) died of typhus, which is generally accompanied by rose spots upon the skin, petechiæ, or ulcerations of the intestinal glands of Peyer.

1275 males, and 259 females, died of diseases of the urinary organs : the rate of mortality was, males 169, females 33, in 1,000,000.

Child-birth was fatal to 2915 women; out of 1,000,000 females living 368 died by this cause in 1838, and 372 in 1839. About five births in 1000 are fatal to the mother. It is to be regretted that no sign of diminution is perceptible in this class of deaths.

Diseases of the joints, bones, and muscles destroyed 1098 males, and 922 females. White swelling, lumbar abscess, and other scrofulous affections, constituted a considerable number of the cases.

The deaths registered as "Inflammation," without any specification of the part affected, amounted to 5816 in 1838, and 4940 in 1839. The decrease denotes an improvement in the registration, for the term is vague and highly objectionable. If the existence of inflammation has been ascertained, the part affected must be known, and should be stated. The mortality from dropsy and hæmorrhage was less, from cancer greater than in 1838. The head "Debility" comprises premature births, and the cases of infants who died within a few hours after birth without any very apparent cause. Our knowledge of the diseases of infants, and of old people, is still imperfect; and it is exceedingly probable, that, as the science of pathology advances, the deaths from "debility" and "old age," which amounted in 1839 to 15,143, and 35,063, will undergo considerable diminution.

Violent deaths.—12,055 deaths were referred to "external causes or violence" in 1838; and 11,980 were classed under the same head in 1839. The number of suicides was less in 1839 than in 1838; but the proportions at different ages, in different parts of the country, and in the seasons of the year, remained unchanged.

The tendency to commit suicide appears to increase up to the age of 60, and to be then more than three times as great as at the age of 25.

Exclusive of 2001 deaths by suicide, 22,034 deaths were referred to external causes in the two years 1838-9; and it will be recollected that many cases of lock-jaw, erysipelas, mortification, hernia, and other diseases, are the results of injuries and of accidental violence. The mortality from violence ranges from 509 to 1015 in 1,000,000, and it is highest in the mining and manufacturing, lowest in the agricultural districts. The metropolis occupies an intermediate place.

In the northern counties, 16 in 10,000 males die violent deaths annually; in Staffordshire, Warwickshire, and the other western counties, 14; in Lancashire and Cheshire, 13; in Cornwall, and the other south-western counties, 11; in the metropolis, 8; in Essex, Suffolk, and Norfolk, 7. The deaths of females by violence are most numerous in Cheshire, Lancashire, the western

counties, and Yorkshire, where they are employed in factories, and are exposed to accidents by machinery. In Kent, and the other south-eastern counties, 3 females in 10,000 died violent deaths; in Lancashire and Cheshire, 5 in 10,000.

The mortality of males from violent deaths was to that of females as 26 to 10; the tendency to suicide was 23 to 10, or nearly in the same proportion.

Suicides.		
	Males.	Females.
1838	751	307.
1839	636	307.
Other violent deaths.		
	Males.	Females.
1838	7608	3061
1839	7689	3000

To exhibit the influence of age, an abstract has been made of the ages of 5519 individuals who died violent deaths. The results are given in the annexed table, from which the deaths to 100,000 living at each age have been deduced, by raising them in the proportions of 5519 to 11,729 (the annual deaths said to be from "external causes," exclusive of those ascribed to intemperance and starvation), and distributing the population among the different ages in the proportions found to exist at the census of 1821. The suicides have been substracted. This gives an approximation sufficiently near for the present purpose.

It will be observed, that two-thirds of the males were aged 20 and upwards; while less than half of the females were of that age. Under 20, the number of males was 1311; the females, 853. At the age of 20 and upwards, the males were 2650; the females, 705. Nearly half (5315) of the total violent deaths in the country happen to men above 20 years of age; 44 per cent. are 20 and under 60. So that, exclusive of suicides, and the deaths at sea, 4367 men, in the prime of life, are cut off every year in England by injuries and accidents of various kinds.

The mortality occasioned by violent deaths is least at the age of puberty (10-20), and remains nearly the same (6.6 in 10,000) from 20 to 50; but as the accidents become more fatal every year from the age of 15, the facts show that many more accidents occurred when the men were young and inexperienced than in maturer life.

Nearly 12 men in 10,000 (exclusive of sailors and soldiers), aged 20 years and upwards, died violent deaths in the metropolis; and from the best estimate that can be made from the verdicts recorded in the registers, 5 of the 12 were suicides. 1 in 2000 men committed suicide in the year.

With their Prices and several Duties.

(From the Official Returns, Dec. 28, 1841.)

	PRICE.				DUTY		DUTY PAID.		
	£ s. d.		£ s. d.		and 5 per cent.		In 1841, to last week	Same time in 1840.	
Aloes, Barbadoes, D.P. c	10	0	0	to 25	0	0	142,994	120,727	
Hepatic (dry) BD..... c	5	0	0	10	0	0			
Cape, BD..... c	2	10	0	3	10	0			
Anise, Oil of, German, D.P.... lb							F. lb 1 4	255	970
E. I. lb	0	5	9	0	6	0	E. I. 1 4	1,046	1655
Asafoetida, B.D. c	1	10	0	3	0	0	c 6 0	54	78
Balsam, Canada, D.P. lb	0	1	0	0	1	3	lb 0 1	2,452	6,115
Copaiba, BD. lb	0	1	1	0	1	3	c 4 0	651	871
Peru, BD. lb	0	4	6				lb 1 0	949	1,017
Benzoin (best) BD..... c	25	0	0	50	0	0	c 4 0	82	76
Camphor, unrefined, BD..... c	16	0	0				c 1 0	572	565
Cantharides, D.P. lb	6	2	6	0	2	8	lb 1 0	17,295	16,554
Caraway, Oil of, D.P. lb	0	8	6	0	8	9	lb 4 0	2,429	1,189
Cascarilla or Eleutheria Bark, D.P.c.	3	10	0				lb 0 1	22,968	14,490
Cassia, Oil of, BD..... lb	0	7	6	0	8	0	lb 1 4	3,975	2,903
Castor Oil, East India, BD..... lb	0	7	2½	0	0	0	c 1 3	7,188	7,205
West I. (bottle) D.P. 1½ lb									
Castoreum, American lb	0	17	0	0	18	0	} lb 0 6	763	619
D.P. Hudson's Bay lb	0	18	0	1	0	0			
Catechu, BD. Pale c	0	15	0				} c 1 0	39,728	47,337
Dark c	0	13	0	0	14	0			
Cinchona Bark, Pale (Crown).... lb	0	2	0	0	3	6	} lb 0 1	75,633	41,458
BD. Red lb	0	2	0	0	4	0			
Yellow lb	0	2	4	0	3	0			
Colocynth, Turkey lb	0	1	8	0	2	9	} lb 0 2	12,322	8,652
D.P. Mogadore lb	0	1	0						
Calumba Root, BD. c	0	9	6	1	15	0	lb 0 2	15,477	10,973
Cubebs, BD. c	4	0	0	4	5	0	lb 0 6	31,665	31,922
Gamboge, BD. c	10	0	0	22	0	0	c 4 0	51	66
Gentian, D.P. c	1	8	0				c 4 0	709	606
Guaiacum, D.P..... lb	0	0	3	0	1	0	c 6 0	59	86
Gum Arabic, Turkey, fine, D.P... c	10	0	0	11	0	0	} c 6 0	8,635	9,277
Do. seconds, D.P. .. c	4	10	0	8	10	0			
Barbary, brown, BD. c	2	7	0						
Do. white, D.P..... c	4	5	0						
E. I. fine yellow, BD. c	1	17	0	2	5	0			
Do. dark brown, B.D. c	1	5	0						
— Senegal garblings, D.P. c	4	0	0				c 6 0	14,903	20,100
— Tragacanth, D.P. c	7	0	0	8	0	0	c 6 0	127	223
Iceland Moss (Lichen), D.P. lb	0	0	2½	0	0	3	lb 0 1	4,843	6,462
Ipecacuanha Root, B.D. lb	0	1	4				lb 1 0	9,623	6,240
Jalap, BD. lb	0	3	4				lb 0 6	37,866	41,500
Manna, flaky, BD. lb	0	2	6	0	2	9	} lb 0 3	15,279	16,262
Sicilian, BD. lb									
Musk, China, BD. oz	1	0	0	3	10	0	oz 6 0	1,366	1,990
Myrrh, East India, BD. c	5	0	0	14	0	0	} c 6 0	114	149
Turkey, BD..... c	2	0	0	11	10	0			
Nux Vomica, BD..... lb	0	8	0	0	9	0	lb 2 6	1,020	550
Opium, Turkey, BD. lb	0	8	6	0	9	0	lb 1 0	37,831	45,589
Peppermint, Oil of, F. BD..... lb	0	8	6	0	9	0	lb 4 0	2,603	5,316
Quicksilver, BD. lb	0	3	11				lb 0 1	304,676	324,724
Rhubarb, East India, BD..... lb	0	4	0	0	5	0	lb 1 0	22,481	16,745
Dutch, trimmed, D.P. lb	0	8	0	0	9	0	} F. lb 1 0	21,523	22,203
Russian, BD. lb	0	8	6	0	9	0			
Saffron, French, BD. lb							} lb 1 0	2,420	3,322
Spanish lb	2	0	0						
Sarsaparilla, Honduras, BD..... lb	0	1	0	0	1	9	lb 0 6	115,007	121,814
Lisbon, BD. lb							} lb 2 6	6,922	11,077
Scammony, Smyrna, D.P..... lb	0	18	0	1	0	0			
Aleppo lb	0	0	5	0	0	6	} E.I. lb 0 6	90,730	86,437
Senna, East India, BD. lb	0	1	6	0	1	8			
Alexandria, D.P..... lb	0	1	0	0	1	3	} Other sorts 0 6	60,689	59,044
Smyrna, D.P. lb	0	1	0	0	1	3			
Tripoli, D.P. lb	0	1	0	0	1	3			

‡§‡ B D. In Bond.—c. Cwt.—B. P. British Possessions.—F. Foreign.—D. P. Duty paid.

ROYAL COLLEGE OF SURGEONS.

December 16, 1841.

THE President and Council, finding it necessary to reprint the List of the Members of the College early in the ensuing year, all those members who have not attended to the wishes of the Council, as expressed in their notices of the 8th April, and the 14th October, 1841, are requested to send in their names, with the dates of their diploma, and their present residences, between the 1st of January, and the 1st of February, 1842, on which latter day the list will be sent to press.

ED. BELFOUR, Secretary.

A GENERAL BILL
OF THE
BURIALS, WITHIN THE CITY OF
LONDON, AND BILLS OF
MORTALITY,
From Dec. 15, 1840, to Dec. 14, 1841.

DISEASES AND CASUALTIES OF THE YEAR.

Diseases.		Influenza	49
ABSCCESS	41	Insanity	66
Age and Debility ..	1593	Jaundice	11
Apoplexy	157	Jaw, locked	2
Asthma	355	Liver, diseased ..	41
Cancer	54	Measles	239
Childbirth	92	Miscarriage	4
Cholera	3	Mortification ..	56
Consumption	1959	Paralysis	85
Constipation of the		Rheumatism	15
Bowels	12	Scrofula	4
Convulsions	1066	Small-pox	254
Croup	34	Sore Throat and	
Dentition or Teeth-		Quinsey	21
ing	211	Spasm	11
Diarrhœa	18	Stone and Gravel	5
Dropsy	351	Stricture	4
on the Brain ..	201	Thrush	34
on the Chest ..	22	Tumor	25
Dysentery	6	Venereal	1
Epilepsy	16	Worms	3
Erysipelas	39	Unknown Causes	4952
Fever	315	Casualties, as under,	342
(Intermittent or		Casualties.	
Ague)	2	Drowned	57
(Scarlet)	104	Died by Visitation	
(Typhus)	39	of God	73
Fistula	2	Excessive Drink-	
Gout	6	ing	15
Hæmorrhage	26	Found Dead	19
Heart, diseased ..	103	Killed by various	
Hernia	3	Accidents	147
Hooping-cough ..	283	Murdered	6
Inflammation	664	Poisoned	4
Bowels&Stomach	143	Suicides	21
Brain	130		
Lungs and Pleura	325		

Buried	Males	7,193	Total 14,599
	Females	7,406	

Of the number buried were,

Under 2 years of	40 and under 50 ..	1347
age	50 and under 60 ..	1293
2 and under 5 years	60 and under 70 ..	1474
1499	70 and under 80 ..	1255
5 and under 10 ..	80 and under 90 ..	483
611	90 and under 100 ..	50
10 and under 20 ..	100	1
536		
20 and under 30 ..		
1065		
30 and under 40 ..		
1236		

ROYAL COLLEGE OF SURGEONS.

LIST OF GENTLEMEN ADMITTED MEMBERS.

Friday, Dec. 17, 1841.

A. Back.—R. Oldham.—T. C. Leah.—J. W. Sea.—A. M'Kinley Millman.—A. C. Swayne.—W. Boyd.—J. L. Sweet.—F. Richardson.—G. T. Smeathman.

A TABLE OF MORTALITY FOR THE
METROPOLIS,

Shewing the number of deaths from all causes registered in the week ending Saturday, Dec. 18, 1841.

Small Pox	5
Measles	22
Scarlatina	18
Hooping Cough	47
Croup	11
Thrush	3
Diarrhœa	4
Dysentery	3
Cholera	0
Influenza	1
Typhus	28
Erysipelas	3
Syphilis	1
Hydrophobia	0
Diseases of the Brain, Nerves, and Senses ..	124
Diseases of the Lungs, and other Organs of	
Respiration	269
Diseases of the Heart and Blood-vessels	17
Diseases of the Stomach, Liver, and other	
Organs of Digestion	54
Diseases of the Kidneys, &c.....	3
Childbed	1
Ovarian Dropsy	0
Disease of Uterus, &c.	2
Rheumatism	1
Diseases of Joints, &c.	2
Ulcer	2
Fistula	0
Diseases of Skin, &c.	1
Diseases of Uncertain Seat	88
Old Age or Natural Decay.....	60
Deaths by Violence, Privation, or Intempe-	
rance	24
Causes not specified	0
Deaths from all Causes	794

METEOROLOGICAL JOURNAL.
Kept at EDMONTON, Latitude 51° 37' 32" N.
Longitude 0° 3' 51" W. of Greenwich.

December.	THERMOMETER.	BAROMETER.
Wednesday 22	from 23 to 35	29·65 to 29·75
Thursday . 23	30 45	29·76 29·69
Friday . . 24	28 48	29·93 29·84
Saturday . 25	39 49	29·67 29·56
Sunday . . 26	24 37	29·65 29·85
Monday . . 27	22 33	30·02 29·99
Tuesday . 28	27 43	29·95 29·98

Prevailing wind, S.W.
On the 22d, morning clear, otherwise cloudy; a little snow fell between eight and nine p.m. The 23d a general overcast; raining frequently during the afternoon and evening. The 24th cloudy; small rain fell at times during the day. The 25th, evening clear, otherwise cloudy; rain in the morning and afternoon. The 26th generally clear. The 27th cloudy and foggy. The 28th, except the morning, generally clear.
Rain fallen, '32 of an inch.

CHARLES HENRY ADAMS.
WILSON & OGILVY, 57, Skinner Street, London.

THE
LONDON MEDICAL GAZETTE,

BEING A
WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

FRIDAY, JANUARY 7, 1842.

LECTURES

ON THE

PRINCIPLES AND PRACTICE OF
PHYSIC,

Delivered at King's College, London,

BY DR. WATSON.

Diseases of the heart : usually partial. Changes in its muscular texture, and the mechanism of those changes. Natural dimensions of the heart. Natural sounds. Modifications of these by disease. Review of the physical and general signs that accompany cardiac disease.

You will perhaps accuse me, gentlemen, of a disposition to magnify the importance of every new class of diseases at which we arrive, in our survey of the morbid conditions of the various parts of the body in succession. There are few complaints, in truth, which are not important ; either from the discomfort to which they give rise, or from their tendency to abbreviate the span of human existence. Yet of the strictly vital organs the derangements are necessarily the most perilous ; and therefore, to us, the most interesting. Two props of the tripod of life we have passed in review, and seen how they may be weakened, and how they may fail altogether. The office of the *heart* is not less essential to life and health, than that of the brain, or of the lungs. The well-being of every portion of the frame depends upon its being duly supplied with arterial blood, and duly relieved of that which has become venous : and this supply and relief require that the central organ of the circulation should be sound in its structure, and perfect in its working. But it is frequently otherwise. I can remember, indeed, the time when disease of the heart was thought to be a very rare thing : but it is now well known to

be one of the commonest of disorders, and it connects itself with a variety of other affections, with which it was formerly supposed to have no relation.

Like other organs that are complex of structure and formed of different tissues, the heart is subject to *partial* disease. Its lining membrane alone may, in the first instance, become the seat of inflammation, and its various effects ; or its investing membrane only may undergo morbid alterations ; or the muscular substance that constitutes the organ itself may be gradually changed in its qualities, in its bulk, or in its proportions.

But the morbid conditions of the investing and lining membranes do not always, or immediately, compromise the life of the patient. They are fatal at length, in 99 cases out of 100, through the alterations to which they lead in the muscle wherewith they are connected. It may be practically useful therefore to consider, first, these ultimate morbid states which are incompatible with the continuance of life ; and then to trace them back to the next link in the chain of their causes, which will be found, in a very great number of instances, to consist in some antecedent morbid state of the exterior or of the interior membrane.

The heart, you know, is a living forcing pump ; a hollow muscular engine, with its cavities and their outlets, its contractile walls and their strength and thickness, so admirably adjusted, that the healthy balance of the circulation is continually maintained, under many varying outward influences and inward emotions which tend to destroy it. In treating of disease of the heart we have to consider, therefore, the modes in which its mechanism may be spoiled or deranged ; and the effects of such derangements.

Not only the component tissues, but different portions also of the organ may be separately diseased. It seldom happens, indeed, that the whole heart is affected ; although that is probably the vulgar belief.

The left side is much more obnoxious to morbid changes than the right: and when both sides are implicated, the alteration is almost always more decided and conspicuous in the left than in the right chambers.

In the rapid sketch which I attempted of general pathology, in the outset of the course, I pointed out the various kinds of alteration to which the tissues and organs of the body, and therefore the heart among the rest, are subject. One or more of the chambers of the heart, you will remember, may become larger or smaller than is natural; or have their walls increased or diminished in thickness, and consequently in force; or one or more of its outlets and orifices of communication may be widened or contracted: and the purposes and function of the organ will be more or less impaired by these changes.

In order, then, to have a clear conception of cardiac disease, it is necessary to analyze it, and to investigate the derangements of the several parts of the heart. And I begin with *hypertrophy*; augmentation of bulk in its muscular substance. And I must first of all define one or two phrases which are current among pathologists in respect to this condition.

The muscular tissue of one, or more, of the chambers of the heart may become thicker and stronger than natural, while the capacity of that chamber, or of those chambers, remains unaltered. The hypertrophy in that case is said to be *simple*.

But, while the muscular parietes are thickened, the corresponding chamber may become unnaturally large. This constitutes the *active aneurism* of the heart of Corvisart, the *eccentric* hypertrophy of more modern writers.

On the other hand, the capacity of a cavity of the heart may diminish in size as its walls increase in thickness: the hypertrophy may take place *at the expense* (as it were) of the chamber. This is called *concentric* hypertrophy.

Now of these three forms of hypertrophy, that which is called eccentric, and which is plainly a compound affection, consisting of *hypertrophy with dilatation*, is much the most common. And the reason of this is to be found in the physical cause of the morbid condition, in most instances. The physical cause, in 19 cases out of 20, is some obstacle, mechanical or virtual, to the perfect accomplishment of the function of the chamber; some obstruction opposed to the free and thorough exit of the blood from it; or something which hinders the easy play of the organ: hence, in the first place, a *striving* action of the muscle to overcome the hindrance, or to counterbalance the obstacle; and consequently, according to the law formerly announced, an augmentation in the

bulk of the muscle the function of which is thus increased: and, in the second place, a gradual yielding of the sides of the affected chamber, by the continual and unwonted pressure of the accumulated blood against them. If the hypertrophy, which is the result of a truly conservative process, keeps pace exactly with the amount of the obstacle, and *exactly balances* it, no dilatation takes place: but this is comparatively seldom the case. Concentric hypertrophy, *i. e.* hypertrophy with a *diminution* of the corresponding cavity, is still more rare than *simple* hypertrophy. It is sometimes rather apparent than real. If the left ventricle, for instance, is empty, and contracted, at the moment of death, and if it be affected with simple hypertrophy, the cavity will *appear* disproportionately small: and it may *really* be so. The cases in which I have seen it so have been cases of disease of the mitral valve, obstructing considerably the passage of the blood from the left auricle into the corresponding ventricle. It would seem that in some of these cases the ventricle, baffled and irritated by the insufficient supply of blood (we are obliged to use expressions which are metaphorical), contracts more energetically than common; and so becomes hypertrophic, while its cavity decreases. You will understand, then, that there may be two distinct kinds of physical cause of excessive action of the heart, and therefore of hypertrophy. In the one kind, there is a mechanical obstruction to the exit of the blood from one or more of the cavities; a constricted state of the *orifices*, is the most common condition. In the other kind, without any such mechanical bar or dam to the fluid, there is something to hinder the free and sufficient play of the organ; an adhering pericardium it may be, or malposition of the heart. If the heart be pushed, for instance, out of its proper place and posture by effusion into the pleura, or by distorsion of the chest, it will not work with the same ease as when all is perfect and symmetrical; and the unusual labour imposed upon it in order to execute its office, will lead to hypertrophy. The causes of hypertrophy may therefore be situated *within* the heart itself, or *without* and beyond it: but in all those cases in which the effect of the hindrance or obstacle is to *detain* the blood in one or more chambers, the hypertrophy will be likely to be accompanied by *dilatation*: and, generally speaking, the hypertrophy and dilatation result from disease in some part which lies *beyond* the affected chamber, in the order of the circulation. Thus either a narrowing, or a dilatation of the aorta at its commencement, will tend to cause hypertrophy and dilatation of the left ventricle.

That *contraction* of the aorta, or of the

aortic orifice, may have this consequence, you will have no difficulty in perceiving. The blood cannot so readily pass through the narrowed channel; hence it will tend to accumulate in undue quantity in the ventricle, and therefore to stretch and dilate it; and the increased muscular efforts necessary to drive the delayed blood onwards, tend also to thicken the muscle itself. But it may not be so obvious that *dilatation* of the mouth of the aorta—a wider channel of egress—would also virtually prove an obstacle to the emptying of the ventricle. Yet it certainly would, in two ways. In the first place, dilatation of the entrance of the aorta implies a diminution in the elasticity of that vessel; and the blood after it has left the heart is driven forwards by the healthy elasticity. But, again, dilatation of the mouth of the aorta commonly implies an imperfect closure of that vessel by the sigmoid valves; so that during the diastole, a part of the blood is apt to regurgitate from the aorta, and to keep the ventricle morbidly full. You see, therefore, that a deviation from the healthy state of the aorta and of the valvular apparatus which lies at its mouth, may obstruct the course of the blood, and lead to hypertrophy and dilatation, whether the deviation be in the one way or in the other; whether, I mean, the natural size of the vessel be increased or diminished. Again, disease of the mitral valve, obstructing the flow of the blood at *that* point, will lead to an accumulation in the left auricle, and pulmonary veins, and in the lungs themselves. The auricular action is always less regular and energetic than the ventricular, so that we less frequently meet with *hypertrophy* of the auricles; but very often with dilatation. And if we go to the other side of the heart, we find hypertrophy with dilatation, and more especially dilatation, of the right ventricle, when, from some reason or other, the blood passes with difficulty towards or through the *lungs*: either from disease of the pulmonary artery, or from disease in the substance of the lungs—emphysema, for instance: and if the difficulty be great, the accumulation and distension will affect successively the right auricle, and the *venæ cavæ*; and then we have general dropsy in most cases. So that, I repeat, disease in the heart is apt to propagate itself in a direction contrary to that of the circulation. Furthermore, if the muscular tissue of the heart be pale, flabby, soft, and weak—as it frequently is in feeble, ill-nourished, cachectic persons—it will the more readily yield to the centrifugal pressure of the blood it embraces. In this way we may have dilatation without any hypertrophy. I am anxious that you should in the outset comprehend the mechanism by which the natural dimensions, and relative

proportions of different parts of the heart, may be altered in disease.

One reason why disease of the heart used formerly to be overlooked, was that these natural dimensions and relative proportions were not ascertained or much attended to. It is not easy to form any very precise estimate of the size of a healthy heart. It is commonly held that if the heart be about the same size with the closed fist of the subject, its general dimensions may be considered as being natural. Bouillaud, who has taken much pains with this matter, weighing and measuring a great number of different hearts, states that the *mean* weight of that organ, with the origins of its large vessels, and empty of blood, in adults from 25 to 60 years old, is from 8 to 9 ounces; that in subjects from 16 to 25 years old it may be one or two ounces less; and that, in very large and robust persons, it may rise to 10 or 11 ounces. Also, what we should expect, that the weight is less in women than in men.

So much for the general bulk of the heart. And we must have some standard whereby to estimate its relative proportions. Every one knows that the walls of the left ventricle are thicker than those of the right. Bouillaud found that the mean thickness of the walls of the left ventricle *at its base* was 7 lines, while that of the right ventricle was $2\frac{1}{2}$ lines. And taking the thickness generally, he says that the thickness of the parietes of the right ventricle, has not a greater ratio to that of the parietes of the left, than 2 to 5, or even than 1 to 3.

So again of the auricles; he lays it down that the mean thickness of the walls of the left auricle, is to the mean thickness of those of the right, as 3 to 2.

He holds also that the mean capacity of the right ventricle exceeds, by a little, that of the left: and that the right auricle is larger than the left. You must always make allowance in actual cases, for the possible distension of these cavities with blood, beyond the size to which they would have contracted if they had contained no blood.

I may add, that the same author declares that the rule I just now mentioned, and which had been proposed before his researches were instituted—the rule, viz. which makes the bulk of the healthy heart equal to the fist of the subject, is tolerably correct. By bearing in mind these general facts, you will be able better to appreciate the appearances presented by the heart when it is taken from the body to be examined: but you will recollect that they relate to *averages* only.

Now, having pointed out the modes in which the natural proportions of the heart and of its several parts may be morbidly

altered; and given you a rough standard which will enable you to estimate these proportions in the state of health, and the deviations from them in the state of disease: I will go on to consider the symptoms, by which the altered conditions are accustomed to declare themselves. And it is with respect to the heart, as with respect to the lungs, there are *general* symptoms or signs, and there are *physical* symptoms or signs: and the information derived from these sources respectively is of variable utility. Neither of them can be safely neglected; and it is often found that the indications afforded by one of these sets of symptoms are confirmed or corrected by those furnished by the other. I believe it will be best to pursue the same course in both cases, and to speak, in the first place, of the signs that are brought within our notice by the sense of hearing.

But, in order that we may comprehend the *morbid* sounds of the heart, we must first make ourselves acquainted with those that belong to its healthy condition.

The heart may be heard by the ear laid flat against the præcordial region, or through a stethoscope, to beat over a certain space. That space, in ordinary circumstances, corresponds to the inferior half of the sternum, and to the cartilages of from the fourth to the seventh ribs, on the left side. The apex of the organ may often be *seen* to pulsate between the cartilages of the fifth and sixth left ribs; about two inches below the nipple, and one inch from it towards the sternum.

This is the space over which, in the sound state of the heart and lungs, the pulsations of the former are plainly audible. But there are several diseased conditions both of the heart itself, and of the parts around it, which interfere with this rule.

In the first place, if the heart be larger than natural, it will be heard to beat over a proportionally larger space. In this way it may come to be heard all over the chest in front; and behind on the left side of the spine; and even, in extreme cases, on the right side of the spine.

Again, the extent of space over which the heart may be heard to beat will be increased in proportion to the thinness of its walls; and diminished, *ceteris paribus*, according to the thickness of its walls. So that when the heart is of its proper size, if its walls be thin, it will be heard beyond its natural limits; and if its walls be morbidly thick, *i. e.* if it be affected with considerable hypertrophy, it will not be heard beyond, nor even to the extent of its natural limits. I will endeavour, presently, to explain the reason of these differences.

Again, and this it is of great importance to bear in mind, the heart may be heard far beyond its natural limits, even when it is

perfectly healthy, in consequence of the lung between the ear and the heart having become solid, and therefore a better conductor of sound: and the solidification may have resulted from hepatization, or from the presence of a number of crude tubercles. The sound of the heart's action will be conveyed to a distance also by the liquid effusion in pleurisy. If we are not aware of these circumstances, we are continually liable to fall into mistakes.

The heart is also heard more distinctly, and over a space which is comparatively larger, in children than in adult persons; and I need scarcely say that it may be heard over a wider extent of the chest whenever its action is augmented by exercise, by emotion of mind, or by febrile excitement.

The *impulse* of the heart is another point which you must attend to. In healthy persons who are thin, you may generally feel the stroke which the heart gives to the ribs, by placing your hand on the præcordial region. In persons who are fat, you often cannot feel the heart beat at all in this manner. For obvious reasons, it is felt more distinctly, over a larger space, and higher up, while the person is stooping forwards, or makes a forced expiration; less distinctly, over a smaller space, and lower down, when he makes a deep inspiration, or is lying on his back. In proportion as the heart is enlarged by disease, it can be felt more extensively: and when there is hypertrophy, the force with which it strikes the parietes of the chest is sometimes extraordinary, and very instructive. You will see the ear and head of the listener distinctly lifted at every pulsation; sometimes the whole of the patient's body, and his very bed, is shaken by the strong shock of the heart during its systole. There is no sign of hypertrophy so sure as that afforded by the heart's impulse. You feel, not a smart, quick, and sudden knock, but a steady, heaving, irrepressible swell, which is perfectly characteristic. You may always infer increased thickness of the walls of the organ, when you meet with this regular heaving motion; and the extent to which the whole heart is enlarged in such cases may be discovered by the extent of space over which the heaving impulse is perceptible.

The *sounds* which we hear are two. One of them coincides, in point of time, with the impulse; and barely precedes the beat of the radial artery. It happens, therefore, when the ventricles contract; during the systole. It is accordingly called the *first* sound of the heart, or the *systolic* sound. The other of the two sounds coincides with the diastole, and is spoken of as the *diastolic* or *second* sound. It takes place at the instant

when the heart reverts to that place and condition in which it had been prior to the systolic movement. These two sounds occur in quick and regular succession, and then follows an interval of silence, after which the two sounds are repeated; and so on.

The two sounds are not, however, exactly alike. They differ somewhat, both in quality, and in duration. The first is a dull, prolonged noise; the second a shorter and smarter sound, having more of a clacking or flapping character. Attempts have been made to assign the respective duration of each sound, and of the period of repose. I confess that I have never succeeded in measuring them satisfactorily in my mind. Probably Dr. C. J. B. Williams' estimate is as near the mark as any. He divides the whole period, from the beginning of one pulsation to the beginning of the next, into five equal parts: and allots two of these to the first sound, one to the second, and the remaining two to the interval of silence. This order of succession is called the *rhythm* of the heart: and it may be perverted.

Respecting the physical *causes* of these natural sounds there have been much recent discussion and research. Our time, however, will permit me to do little more than tell you what I believe to be the facts of the matter. And I take, first, the diastolic sound, as being the simpler of the two. It used to be ascribed to the contraction of the auricles: but that was quite a mistake. The contraction of the auricles, such as it is, happens immediately *before* the systole of the ventricles; whereas the sound in question occurs immediately *after* it. This we know from the visible movements of the organ when exposed in a living animal. In truth, the auricular contractions are very feeble, and not attended with any appreciable noise. I have no doubt that the second sound is produced mainly, if not altogether, by the sudden shutting of the floodgates placed at the mouths of the two great outlets of the heart. The recoiling blood forces back the semilunar valves of the aorta and of the pulmonary artery, as one unfurls an umbrella; and with an audible check as they tighten. There is no other tenable mode of accounting for the sound. Experimenters have contrived, by hooks and wires, to prevent these valves from unfolding; and then the flapping sound has been converted into a hiss. Disease of the same valves demonstrates the same things; as we shall presently see. Nevertheless, it is both possible and probable that the relapse of the whole organ to its former place may contribute an ingredient towards this second sound.

The first, or systolic sound, is more complex. Partly it is owing, as I believe, to a

similar cause with that which occasions the diastolic sound, viz. the abrupt closure of the orifices of communication between the auricles and ventricles, by the reflux of the blood against the ventricular surfaces of the tricuspid and mitral valves; partly, sometimes, to the blow of the heart's apex against the ribs; *chiefly*, however, it consists of the sound that results from the muscular contraction of the ventricles. The systolic sound commences with the tightening of the walls of the ventricles, including the valves; and it is prolonged by the muscular noise. You are aware, I dare say, that the vigorous contraction of a large muscle is accompanied by audible sound. If, during the stillness of night, when lying in bed, with your cheek and ear upon the pillow, you set your teeth firmly, you will hear a continuous dull rumbling, caused evidently by the action of the masseter and the temporal muscles. Dr. Williams states that, with the help of a flexible stethoscope, one may hear the voluntary jerking contraction of his own abdominal muscles; the sound being as loud as that of the heart's systole, and very like it in character. That the systolic sound is essentially due to muscular contraction is proved by the fact, that when a heart is taken from the living thorax and placed upon a table, its contractions (which persist for a while) are still attended with a noise similar to the natural first sound, though weaker. Here there is neither collision of the blood, nor valvular re-action, nor impulse against the ribs, to render the experiment ambiguous.

If you acknowledge and comprehend this source of sound, you will understand without difficulty why the heart, *cæteris paribus*, is heard more clearly and extensively when its walls are thin, less widely and loudly when they are thick. "The transition (says Dr. Williams) of a thick muscle from slack to tight can never be so complete and sudden as that of a thin one. Where there are many fibres they choke and muffle each other's vibrations; hence the sound is dull and prolonged, rather than loud and clear. If we observe the different sounds produced on tightening thin silk and thick baize or cloth, we find that the thinness of the silk gives a unity and briefness to the impulse which it receives, and the sound is short and loud; whilst in the baize the impulse is divided and prolonged in the complexity of the fibres, and the sound is dull and less brief: so, under similar circumstances, a thin ventricle will give a louder, sharper sound than a thick one."

The natural sounds which I have been describing are liable to be changed, or modified, by disease. Some of the modifications, indeed, I have adverted to as I went along. But others, of a more striking and extra-

ordinary character, are yet to be explained. Either sound, or both, may be accompanied by a noise, which, in its commonest type, very closely resembles that produced by the blowing of a pair of bellows. Four persons out of five, I should think, if they were asked what this sound resembled, when they heard it accompanying each systolic movement of the heart, would say that it was exactly like the repeated blowing of bellows in an adjoining room. It is called, accordingly, by the French, the "*bruit de soufflet*;" and, in homely English, a *bellows sound*. This is the generic sound. It may be divided into species; but it is scarcely worth while so to divide it. We are only likely to confuse our notions by over-refinement. So I will only add, that, when this bellows sound is very harsh or rough, persons will tell you that it is more like the noise of a rasp, or a file, or a saw: but all the while it is some kind of bellows sound. These sounds are often denominated *murmurs* also.

Now what is the cause of this singular deviation from the natural noises made by the successive contractions and relaxations of this hollow muscle, the heart? Why, I believe, the whole matter may thus be briefly expressed. The blowing sound may be occasioned by any change which alters the due proportion between the chambers of the heart, and their orifices of communication with each other, and with the blood-vessels that respectively enter or leave them; it may also be occasioned by a preternatural velocity in the passage of the blood through a healthy and well adjusted heart. Dr. Elliotson, I think it is, who has offered this apposite illustration of the phenomenon. If the arches of a bridge have a certain relation to the quantity of water in the river, and to the force of the current, the water passes through them quietly, and without any noise. But if you diminish the size of the arches, the water will begin to go through them with an audible rushing or roaring sound; and the very same thing will happen if the arches remain unchanged in size, but the quantity of water in the river, and therefore its velocity and force, be augmented by heavy rains. So it is in the heart. If one of its orifices—say the aortic orifice—be narrowed, by disease of the valves, or in any other way, the blood will not, as before, glide through it smoothly and without noise, but will yield that sound which we call a bellows sound. So, also, if the orifice retain its natural dimensions, but the capacity of the cavity from which the blood is driven be augmented. Nay, the same blowing sound may be produced though the cavities and orifices be all healthy, and duly proportioned to each other, if the velocity of the circulating blood be increased.

beyond a certain measure. If you bear this explanation in mind, it will be found applicable, I think, to almost every case in which there is a blowing sound accompanying the *systole* of the organ. If, at the same time, the valves over which the blood must pass be rigid, or rough, or even loose and vibrating; those circumstances may modify the blowing sound, and render it louder, or hoarser than it would otherwise be, and justify the appellations of *bruit de scie*, and *bruit de rape*, with which you will find the French books, and many of our English also, full.

But this explanation applies to a *systolic* blowing sound only. What are we to say when there is a similar sound attending the diastolic movement of the heart? Why a diastolic bellows sound will mostly, if not always, be found to accompany and denote some organic disease affecting the valves of the heart. Thus, if the mitral valve be converted, as it often is, from a loose flapping valve into a bony and rigid unvarying chink, the blood which passes through it from the auricle to the ventricle, during the diastole, may cause a rushing or blowing sound. On the other hand, the reflux of blood through the unshut mitral orifice, during the ventricular contraction, may also be attended (though it seldom is) with an audible noise; and thus we have another source of a *systolic* murmur. Again, if the aortic valves are imperfect, as they often are, and do not effectually close that vessel, blood will regurgitate through them during the diastole, and produce a bellows sound. That this is the true explanation of the diastolic murmurs, I am convinced, both by the observation of disease, and by the results of experiments on animals. In some of Dr. Hope's experiments, which he was good enough to allow me to witness, the short clack of the diastole was at first distinctly audible; then hooks were introduced, so as to prevent the perfect closure of the sigmoid valves during the diastole, and then the short smart clack was converted into a prolonged bellows murmur; and, upon letting them go again, the short smart clack recurred. And I have, repeatedly, predicted, and found such disease of the sigmoid valves as prevented their proper function—that of shutting out the blood in the aorta from re-entering the ventricle—I have repeatedly predicted that morbid condition when I met with a certain kind of diastolic bellows sound during life, and have found it, and justified the prediction, after death.

Such are the principal sounds, natural and morbid, which are audible to the naked ear, applied to the præcordial region, or which may be heard through the stethoscope. But we derive assistance, in respect to cardiac

disease, from percussion also. It enables us to measure, in some cases, the bulk of the heart; in others, to ascertain that the pericardium is distended by fluid. In the perfectly healthy state of the viscera of the thorax, the heart is somewhat overlapped by the thin edge of the lungs; and the sound elicited by percussion over a part of the præcordial region is intermediate between the hollow sound rendered by lung, and the flat sound yielded by the solid heart. In the centre of the præcordial region, where the heart is not covered by lung, the sound is perfectly dull. When, however, the heart is enlarged by disease, a larger part of its surface is exposed, and a larger portion of the præcordial region yields a dull sound on percussion. And when the pericardium is full of liquid, which distends and expands it, you will sometimes find that not less than a third part of the anterior and lateral portion of the left side is quite dull: and it is interesting often to measure, by percussion, the diminution or extension of the limits of the dulness, as the amount of fluid effused decreases or augments.

What I stated before, concerning the effect of different positions of the body upon the space over which the healthy beating of the heart may be heard, felt, and sometimes seen, applies, *mutatis mutandis*, to the natural dulness which it causes when the præcordial region is percussed. This dulness comprehends a space of between one and two square inches, reckoning from the spot where the impulse is felt, towards the left edge of the sternum. The dulness should diminish or disappear, in the supine position, and when a full breath is drawn; and increase in degree and extent upon a forced expiration, and when the posture is prone.

There is another physical sign which is much dwelt upon by Laennec, and which is sometimes very striking. In certain conditions of disease, the hand placed over the situation of the heart perceives a peculiar thrill or vibration accompanying its movements. The sensation conveyed to the hand is really very much like what Laennec compares it to, viz. that tremor which you feel, when coaxing the back of a cat while it is purring with pleasure. Accordingly he calls this sensation "*fremissement cataire*," the purring thrill. You feel this vibration often when there is present also a loud and strong bellows-sound; and Dr. Davis is of opinion, that the *bruit de soufflet*, and the *fremissement cataire*, constitute, in fact, but one phenomenon, which is rendered evident to the touch by the vibrations communicated to the hand; and to the ear by the vibrations communicated to it through the solid walls of the chest. I know, however, that the *fremissement cataire* does accompany other sounds, as well as the bellows-sound; sounds

of which I have not yet had any occasion to speak, but which I shall make you acquainted with when we come to the subject of pericarditis. And I pass from this general account of the sounds belonging to the action of the heart, in health and in disease, to consider the other symptoms by which we judge that such disease is present.

Among the general symptoms, then, of cardiac disease, some are direct—as pain; palpitation or excessive action of the heart perceptible by the patient; irregular or intermittent action, which the patient may or may not be conscious of: and some are indirect, or declare themselves through the medium of other parts and organs—such as dyspnœa; cough; dropsical accumulations; various affections of the nervous system, especially an increased and morbid sensibility, what is usually called *nervousness*: and some others, which I will cursorily notice as we proceed.

I shall take this opportunity of considering, once for all, some of these symptoms; whether they really proceed from organic disease of the heart or not: for the determination of the question, whether they do or do not indicate such disease, is often of great moment, and is not always easy.

We are not, in general, sensible of the beating of our hearts: but when the pulsations become inordinately forcible, they make themselves felt, and the sensation is, in many cases, a most troublesome and distressing one. Palpitation implies increased force, or increased frequency—or an increase both in force and in frequency—of the contractions of the heart. Every one has experienced palpitation in his own person who has run himself out of breath. The pulsations are sometimes tumultuous also, and irregular, as well as unduly frequent and forcible; but this is by no means always or necessarily the case. There may be great palpitation with perfect regularity of the heart's action. The increased beating not only can be felt internally by the patient, but it may often be heard both by himself and by others. However, we do meet with persons whose hearts throb with excessive violence, without their being at all aware of it. Such cases are always, I believe, cases of disease; whereas the palpitations that annoy and harass the patient are very often connected with functional disorder only.

Irregular action of the heart consists in some derangement or discord of its rhythmical movements, and is discovered by the condition of the arterial pulse—by unnatural fluctuations in the strength, or in the number of its beatings, or in both. Sometimes a few rapid and feeble pulsations occur at uncertain intervals, and are followed by others that are fuller and slower. Sometimes

one or more beats are left out, and the next beat, as if to make up for this pause, is unusually strong. The pulse is then said to *intermit*. The intermissions may be unperceived by the patient himself; but in general they are attended with a singularly disagreeable fluttering, or tumbling sensation in the breast. The pulse may intermit though the heart does not: the ventricle may now and then contract so faintly as not to propel a wave of blood so far along the artery. Intermission implies irregularity; but the action may be irregular and disorderly without intermitting.

Now, any of these deviations from the natural rhythm and action of the heart alarm people very much, and impress them with a belief that they have some fixed disease of that organ; and you will continually be appealed to for your opinion on this point. I suppose there are few medical students who have not, at some time or another, admitted into their minds the apprehension that they had disease of the heart; an apprehension engendered by its occasional palpitation or irregularity. For though there may be palpitation without irregularity, yet it is practically convenient to consider the two together.

These deviations certainly belong both to organic disease and to mere functional disorder of the heart; but I repeat, that in a great number, nay, in a great majority, of the cases in which they so distress and alarm the patient as to lead him or her to complain of them, they are unconnected with any change of structure; and this it is of much importance that you should be aware of.

Palpitation of the heart, and intermission or irregularity of the pulse, are often dependent upon some disordered condition of the stomach, and will cease at once when that disorder is rectified. It is curious that this may happen although the gastric affection does not manifest itself by any other symptom; and it is curious, too, how slight a cause may suffice to produce the irregular action. A friend of mine, a barrister, used to be very anxious about himself because a fluttering sensation frequently occurred at his heart; an intermission of one or two beats, and then a violent throb when the organ again resumed its play. This is a sensation very familiar to myself, and probably most persons have occasionally experienced it. However, it happened so often to the gentleman I speak of, that it made him very unhappy. He persuaded himself that he had disease of the heart, and that he should some day suddenly drop down dead. But there was no other symptom of cardiac disease direct or indirect, general or physical. He was accordingly told that the intermission depended upon some fault in his diges-

tive organs; and he was advised to leave off different articles of food and drink in succession, in order to discover whether any one thing in particular offended the stomach, and gave rise to the symptom. He began by abstaining from tea, which he had been in the habit of drinking in considerable quantity; and thereupon the fluttering of the heart ceased. After a while he took to tea again, and then the fluttering returned. He repeated the experiment many times, and always with the same result, till at length his mind was satisfied; and by renouncing tea altogether he got rid of his palpitation and of his apprehensions. I mention this instance, because it came within my own cognizance; but it is only a sample of many such, and *tea* is frequently found to be the disturbing substance.

I must caution you, however, against the mistake, which is often made, of inferring that the heart is free from organic change because its irregular movements are accompanied by dyspeptic symptoms. Structural disease of that organ is very apt to derange the digestive functions. You will commonly find that patients who labour under such disease are exceedingly liable to flatulence of the stomach; and free eructation of the gas that plagues them mitigates wonderfully the cardiac distress. It does so, no doubt, by relieving the diaphragm from that upward pressure which embarrassed the motions of the heart.

We judge that palpitations and irregularities are merely symptomatic consequences of gastric disorder when they occur occasionally only; when the rhythm of the heart is perfect during the intervals; and when we fail to discover any other physical or general signs that its texture has undergone alteration.

Besides these overstrong or irregular movements, which are symptomatic of disorder of the stomach, and are remedied by correcting that disorder, there are palpitations of a purely nervous kind. I mean, that they depend upon a peculiar and highly sensitive condition of the nervous system; which condition is itself dependent, in general, upon a particular state of the vascular system. Persons of a "moveable" constitution, whether male or female, are subject to these palpitations: but especially young women; and, of these, such as are pale, exsanguine, hysterical, in whom the menstrual functions are deficient, or excessive, or somehow unnatural. Anæmia, if not a constant, is certainly a frequent and most remarkable feature of this nervous state. The blood is aqueous; poor in fibrine, and in red particles. The age, and frequently the sex, of the patient form leading points in the diagnosis. Nervous palpitations are apt to come on when the patient is quite at rest:

palpitations that result from organic disease are, on the contrary, always mitigated by repose. The occurrence of palpitations *in the night*, however, is but an equivocal circumstance, for nervous persons who dream awake often with palpitation; and the recumbent posture generally excites or aggravates the palpitations that are organic. Neither, in forming our diagnosis, can we trust entirely to the presence or absence of physical signs. The heaving impulse of hypertrophy is indeed wanting; but, as I told you formerly, the short abrupt knock of chlorotic palpitation is often attended with a bellows sound. The weak and flabby muscle dilates (I fancy), and the natural proportion between the chamber and its outlet is for a time destroyed. The sound may partly depend upon the thinness of the blood in such patients; and this reminds me of another diagnostic clue which you should be acquainted with. In nervous susceptible persons, especially if they exhibit the pallor of anæmia, very curious noises are often audible, by means of the stethoscope, in the *neck*. Continuous rushing or roaring sounds, very like those which are to be heard in shells, and which poets feign, and the vulgar believe, to be the noise of the distant sea.

Shake one, and it awakens; then apply
Its polished lips to your attentive ear,
And it remembers its august abodes,
And murmurs as the ocean murmured there.

Sometimes the sound is more like the hum of a gnat, or the sighing of the wind through a crevice. Dr. Hope very truly states that it may be imitated, by a prolonged whispering pronunciation of the syllable *who*. Bouillaud, from its resemblance to the whizzing of a well-known toy, calls it the "bruit de diable." He supposed this singular sound to reside in the arteries of the neck: but it is quite distinct from the true arterial bellows murmur, and it has been clearly shewn (first by Dr. Ogier Ward, of Birmingham), that it is produced by the descent of the attenuated blood through the great cervical veins. The sound, though continuous, has often a marked and regular increase, or swell, which keeps time with the heart's systole, and is believed to depend upon the pulsating pressure of the contiguous artery. It is best heard on the right side of the neck, just above the clavicle, and just behind the posterior edge of the sterno-mastoid muscle. You must take care not to *produce* these sounds, as you easily may, by pressure with the stethoscope. So, also, you may suspend them at your pleasure, by pressing, above the stethoscope, upon the track of the veins, so as to stop the current of blood through them, without arresting the pulsation of the arteries. This proves that the murmurs are *venous*. I have no leisure to go more into particulars concerning these sounds; but

when you meet with them, concurring with cardiac palpitations, in a young, nervous, anæmic subject, the palpitations, ninety-nine times in a hundred, will turn out to be inorganic. No doubt there may be co-existing change of structure; but that is a rare exception, and when it does occur the signs proper to structural disease will be present, and will betray it.

Now these palpitations, and these musical or rushing sounds in the jugular veins, are to be cured by remedying the state of the blood. And the remedies are preparations of steel, aloetic purgatives, animal food, the cold shower-bath, and exercise, short of producing great fatigue, in pure air.

I have farther to remark, with respect to intermissions of the heart's action, and therefore of the pulse at the wrist, that they are frequently connected, both in health and in disease, with feebleness, and also with a morbid slowness of pulsation. So that a slow pulse which is likewise feeble is often converted into an intermitting pulse by depletion; by blood-letting, for example, or by an active purgative; and the intermit-tence may be removed again by a stimulant. I mention this now, because there is another and very different state of disease, in which the pulse is apt to intermit. I mean when there is *plethora capitis*, and cerebral mischief is present or impending. But then the pulse will be full and strong, and labouring. In these cases a stimulant treatment would of course be injurious: while blood-letting, which would *cause* the other form of intermission, is the *remedy* of this.

Some assistance in determining between organic disease and mere functional disorder of the heart may perhaps be derived from observing the position of the patient. It is stated that when there is mere nervous palpitation, the patient lies as well, and perhaps better, on the left side: whereas, when the heart is actually diseased, the decubitus on the right side is more comfortable than that on the left. If there be any tenderness of the heart, or of its enveloping membrane, the posture on the right side is supposed to be the easiest, because the heart is farther removed from the ribs, and impinges upon them during the systole with less force. However, no great stress can be laid upon this symptom.

Of the remaining general symptoms of heart-disease there is not much to be said. Dyspnœa and cough are indirect symptoms declared through the lungs, between which and the heart there is a close and obvious reciprocal influence. But dyspnœa and cough are direct symptoms of pulmonary disease; and even of pulmonary disease they scarcely help the precise diagnosis. That disease of the heart may materially alter the quantity of blood that is sent to, or trans-

mitted from the lungs, is too obvious to require any formal proof; and where the quantity of blood in the lungs is affected, the quantity of air necessary to ventilate that blood must vary: in other words, dyspnœa must ensue. Hæmoptysis is also an equivocal symptom.

One very common effect of cardiac disease is an impeded and sluggish transmission of venous blood from the abdominal viscera. Hence congestions of various parts, and especially of the liver, which enlarges and grows tender; and the biliary secretion and functions are deranged. These symptoms are a fruitful source of mistake, leading the unwary practitioner into the belief that the whole of his patient's malady is hepatic; whom he comforts accordingly with the assurance, that "it is all liver."

The circulation through the *brain* is also apt to be much disturbed in heart diseases: and to this circumstance we must attribute the headaches and giddiness that often accompany them; the dread and causeless apprehension which such patients frequently exhibit; the cowardice and irritability which disease of the heart engenders in men who previously were intrepid, and of strong and firm nerves; also that propensity to dreaming, and especially to distressful and alarming dreams, so commonly observable in them; and the sudden starting from sleep in horror and alarm. The relations that exist between apoplexy and organic disease of the heart, were fully discussed in a former lecture.

One of the most common indirect symptoms of cardiac disease is dropsy; yet, sometimes the disease of the heart may continue long, and even prove fatal, without giving rise to any dropsy. It will produce that symptom, or not, according as it leads to venous congestion or not. Hence dropsy is more particularly connected with dilatation and attenuation of the right cavity of the heart. But these are points to which I must revert.

Having thus run over, gentlemen, the morbid changes to which the heart, as a muscular organ, is liable; the alterations of thickness in its walls, and of capacity in its chambers, and the derangements of the natural relations between the several chambers and their orifices; having considered, also, in a brief and cursory manner, the sounds which the heart gives out in its different movements during health, and the modifications of which these sounds are susceptible in disease; and having, moreover, passed in review the general symptoms which frequently display themselves in connexion with cardiac disease, we shall be the better prepared, I hope, to investigate, when we next meet, some of the specific diseases of that important organ.

KING'S COLLEGE HOSPITAL.

CASES OF DISEASED HEART, WITH REGURGITATION THROUGH THE MITRAL ORIFICE.

CLINICAL REMARKS BY DR. BUDD.

ELIZABETH ROGERS, æt. 19, single, a native of London, was admitted into King's College Hospital, the 22d of September.

She stated that her health was good until fifteen months before, when she became affected with violent pain of the head. The headache continued for six weeks, at the end of which she had a fit, in which she lay unconscious for some hours. When her senses returned, she found herself palsied on the left side. On account of this seizure, was taken to the London Hospital, where she remained three months. Gradually recovered the power of her left arm and leg, so as to use the hand freely, and to walk without lameness; but those limbs have continued weaker than before the attack. Since this illness, has never recovered her former health; and the catamenia, which were before quite regular, have never recurred. She had, however, no symptoms other than those of debility, until about last Easter, when she became affected, for the first time, with pain at the precordia, difficulty of breathing, and cough. These symptoms continued, and at the end of two months were followed by œdema of the legs. She never had rheumatic fever, and could assign no cause for this complaint of the chest.

At the time of her admission, she was very weak,—her face pallid, and her muscles soft and flabby,—and there was considerable œdema of the legs. Her breathing was very difficult—inspirations forty-six a minute—and she had frequent cough, attended with expectoration of transparent mucus. Had no palpitation, and made no complaint of pain in the chest, but there was some tenderness on pressure under the left false ribs. The jugulars were much dilated. The pulse 120, very small and irregular. She had no fever. The skin was cool; the tongue moist, clean, pale; the appetite good; the urine of natural colour, transparent, not albuminous.

She was ordered animal food, and ʒiij. of wine a day; and a diuretic mixture, containing digitalis, squills, and sp. ætheris nitrici.

The symptoms underwent no change until the 30th of Sept., when a grain of iodide of potassium was added to each dose of the mixture.

On the 1st of Oct. she had running at the nose and sneezing, which was attributed to the iodide.

On the 2d, the forehead, nose, and both cheeks, were thickly studded with an eruption of small, elevated, circular spots, like nettle-rash. On the cheeks the seat of eruption was slightly red, but on the forehead it had the natural colour of the skin. The eruption was perfectly symmetrical as regards the two sides of the face, and was attended by a good deal of smarting. A small transparent vesicle could be seen at the centre of each of the spots on the nose and cheeks, which had made their appearance earlier, and were more advanced, than the spots on the forehead. These vesicles increased rapidly, and the next day vesicles of the same kind were seen in the centre of each of the small spots, or wheals, on the forehead.

On the 4th, they had grown to large globular bullæ, filled with serous fluid, which was transparent on the forehead, but tinged with blood on the cheeks.

On the 5th, most of the bullæ had burst.

They were succeeded by scabs, and at the end of two or three weeks, when these had fallen off, the skin was left of a dirty-red colour, and slightly scarred.

The eruption was not preceded by shivering, nor attended with fever. During its course the surface was cool; the tongue moist; the pulse, as before, about 120.

On the appearance of the eruption, the medicine she was taking was discontinued, and she was ordered muriated tincture of iron, and ζ iv. of wine a day.

From this time the chest symptoms became worse, and the dropsy increased rapidly. In consequence of this, at the end of a week, the iron was exchanged for a combination of diuretics. This produced no benefit, and on the 21st of Oct. the legs were enormously swelled, and the patient complained much of œdematous swelling of the labia. On account of these symptoms, two or three punctures were made with a cataract needle on the dorsum of each foot. There was a copious discharge of serum from the punctures.

On the 25th, she complained of great pain in the dorsum of the left foot, and the discharge from that foot had ceased. Warm fomentations, and subsequently, the local application of extract of belladonna, produced temporary relief; but the pain continued, and the tenderness became such that she cried out on the slightest touch of the integument.

On the 26th, there was some redness on the dorsum of the left foot from ecchymosis; and on the 28th, the cuticle was extensively separated by gangrenous vesications.

She gradually sunk, and died on the 30th of October. For the last day or two she also complained of pain in the dorsum of the right foot.

From the time of her admission, the chest

was frequently examined, and always with the same results. The dulness on percussion at the precordia commenced on the third rib, and extended over a space larger than could be covered with both palms. The impulse of the heart was diffused, but rather feeble; and a slight thrill could be felt by the hand applied over the apex. At the point of the heart, and to the left of the mamma, a loud, and rather rough, systolic *bruit* was heard, but no diastolic sound. Towards the sternum and base of the heart, the systolic bruit diminished very much in intensity; and the diastolic sound, which was natural in character, became audible. Over the sternum, on a level with the third rib, the systolic bruit was very feeble; the diastolic sound, loud and pretty clear. The arteries of the neck could not be seen to pulsate, and no morbid bruit could be heard over them. The systolic bruit was heard very distinctly on the left side behind, about the level of the lower point of the scapula.

On examination of the body, which took place 45 hours after death, the heart was found uncovered by lung in all the left side of the chest in front, below the level of the third rib. There were no adhesions of the right pleura, but a few thread-like adhesions connecting the anterior edge of the left lung to the pericardium and to the pleura costalis.

There were some white spots on the surface of the heart, but no adhesions of the pericardium. The heart was of an enormous size, chiefly from dilatation of its cavities. The parietes of the left ventricle were somewhat thickened; but those of the right were not. The muscular tissue of the organ was pale. The aorta, and the aortic, pulmonary, and tricuspid valves, were perfectly healthy. At the free edge of the mitral valves was a fringe of warty growths, which, by their position and arrangement, must have interfered with the closure of the valves, and permitted regurgitation. The disease did not involve the fibrous structure of the valve; the chordæ tendinæ had their natural fineness; and the broad leaf of the valve its natural thinness and polish. Vegetations existed on the free edge only of the valves. All the posterior surface of the left auricle was roughened by vegetations like those on the valves: they were of a buff colour, friable, and some of them one-third of an inch in length: they existed only on the posterior surface of the auricle, and extended quite up to the shorter of the mitral valves, sparing its fibrous portion. Along the margin of this patch of buff-coloured vegetations was a deposit of fibrine on the surface of the lining membrane. This deposit, which was evidently more recent than the vegetations, was of flesh colour. In the right auricle, at the Botal hole, which was perfectly closed, was a very

small patch of fibrine, like that at the edge of the vegetations in the left auricle, and apparently of the same date. No vegetations on the tricuspid valves. There was an effusion of serum, tinged with blood, in the cavities of the pericardium, of both pleuræ, and of the peritoneum. The kidneys were large, and presented somewhat the appearance of commencing granular degeneration. In the cortical substance of each were two or three very minute abscesses. The other viscera of the chest and abdomen were healthy. The head was not examined. The cellular tissue under the skin and fascia, on the dorsum of the left foot and for some distance up the outer side of the leg, was infiltrated with pus.

REMARKS.—In his remarks on this case, Dr. Budd observed:—The disease of the heart in this case is different in kind from that which we so frequently meet with as a consequence of rheumatic fever. In rheumatic fever, we almost invariably find the aortic and mitral valves diseased at once; and the disease commences, not in the lining membrane of the cavities of the heart, but in the valves, and in the fibrous structure of the valves. The lining membrane of the heart becomes affected secondarily, by virtue of its intimate connexion with the fibrous structure of the valves.

In Rogers, on the contrary, we find one valve only diseased; and the disease seems to have commenced, not in the valve, but in the lining membrane of the auricle. This appears from the fact, that there was a slight exudation of fibrine on the lining membrane of the right auricle, but no trace of disease in the tricuspid valves. This disease on the right side of the heart was very slight in degree, produced no symptoms, and was of no import to the patient; but it is worthy of attention, because it leads to the inference that, on the left side, the disease commenced in the lining membrane of the auricle, and not in the fibrous structure of the valves.

The fibrous structure of the valve in Rogers was quite free from disease; the broad leaf of the valve had its natural thinness. There was no vegetation on this portion, and no roughening even of its lining membrane. Were not vegetations prevented from forming there by the tension which this portion of the valve experiences during the contraction of the ventricle?

In looking at the lining membrane of the left ventricle, you see a circumscribed white spot, like the white spots we so frequently find on the surface of the heart. This white spot is directly opposite to the vegetations on the mitral valves; so that when the cavity of the ventricle is closed, the spot and the vegetations are brought in contact. This seems to show that the white spot was pro-

duced by some of the fibrine becoming transferred, when in a soft state, from the valves to the opposite surface, when the cavity of the ventricle was closed. The mechanism is the same as that by which unnatural adhesions of the pleura, for instance, take place. A cluster of tubercles in the summit of the lung excites circumscribed inflammation of the pleura covering them; an effusion of fibrine takes place on this portion of the pleura pulmonalis; and this fibrine glues the opposite surfaces of the pleura together. It is probable, however, that irritation is set up in the membrane opposite to that first inflamed, and that some effusion takes place from this membrane also. The fibrine so poured out has vital properties, which render it susceptible of organization; and after some time a vascular communication is established between it and the two surfaces of the pleura.

In the cavity of the heart the current of blood of course prevents such adhesions; and the transfer of the glutinous matter to the opposite surface, gives rise only to a white spot on the latter.

There was no white spot on the surface of the auricle, opposite the vegetations, because the auricle is never completely emptied, and its opposite surfaces are never brought in contact.

No cause could be discovered for this disease of the heart in Rogers; but it would seem from the white spots on the surface of the heart, and from the thread-like adhesions between the edge of the left lung and the pericardium, that she had at first pericarditis, as well as inflammation of the lining membrane of the heart.

During the life-time of the patient we inferred, from the great extent of dulness at the precordia, and from the absence of powerful impulse, that the heart was much enlarged, and that its increased size depended rather on dilatation than hypertrophy. We concluded also from the results of auscultation, that the mitral valves were diseased, and admitted regurgitation, but that the aortic valves were healthy.

The morbid bruit was heard loudest at the point of the heart, and to the left of the mamma; and diminished very much in intensity towards the sternum, and to the right of the mamma. This showed that it had its origin in the left cavities. It was systolic, and therefore must depend on direct impediment offered to the course of the blood by the aortic or mitral valves; or on regurgitation through the mitral orifice.

The circumstances that the morbid bruit was very feeble over the sternum, on a level with the third rib; that the diastolic sound, which depends on the flapping back of the semilunar valves, was loud and clear at that point; and that no morbid bruit could be

heard over the arteries, showed that the aortic valves were healthy.

We were driven, then, to the inference, that the disease was in the mitral valves, and that the morbid bruit resulted from direct impediment offered by the diseased valves projecting into the ventricle; or by regurgitation through the mitral orifice.

The fact that the systolic bruit was heard so distinctly on the left side behind, about the point of the scapula, led to the inference that it was produced by regurgitation through the mitral orifice.

The mitral valve is, as you see, directly at the back of the heart; and a sound produced by regurgitation through it, must be transmitted more readily to the back of the chest than a sound originating in the ventricle, or at the aortic valves.

In Rogers, no *diastolic* bruit was heard; that is, no morbid sound was heard, while the blood passed from the auricle into the ventricle. This is explained by the circumstance, that the blood does not rush into the ventricle with the velocity and force with which it is propelled from it; and that, during the diastole, the point of the heart is not in firm contact with the parietes of the chest; so that there is no ready passage for the sound from its origin to the ear of the observer. The sound to be heard has to pass through the septum, and the parietes of the right ventricle, before it reaches the walls of the chest.

On account of these circumstances, we rarely, if ever, hear a *diastolic* bruit produced by disease of the mitral valves. A diastolic bruit almost always indicates disease of the semilunar valves.

It is instructive to compare the case of Rogers with the case of a girl, named Maria Peppler, who was admitted into the hospital under my care on the 18th of November, 1840, and whom several of you must recollect. She was 25 years of age, and had been living in service. She stated that her health was very good until five years previously, when she became affected with dropsy of the legs, which went off at the end of six weeks. Since that time, she had been subject to palpitation, and tightness of breath, with occasional cough; and the dropsy had recurred whenever she had taken cold.

Peppler never had rheumatism, and could not assign any cause for her illness.

At the time of her admission, she complained of palpitation, much increased by any exertion; and of occasional faintness. There was difficulty of breathing to such a degree, that she was unable to lie back; and a troublesome cough, attended with expectoration of a frothy mucilaginous fluid, and sometimes so prolonged, as to bring on vomiting. The lips and cheeks were of a

purplish hue, and there was great distension of the jugulars. Much dropsical swelling of the lower extremities, but no oedema of the hands or face.

A systolic *bruit* was heard over the precordia, loudest at the point of the heart, and to the left of the mamma. At the point of the heart no diastolic sound could be heard. Towards the sternum and base of the heart, the systolic bruit diminished very much in intensity; and the natural diastolic sound became audible. There was no morbid sound in the course of the aorta or carotids. Auscultation of the lungs indicated increased secretion from the bronchial tubes.

She was ordered a diuretic mixture, and small doses of calomel, which she took until her mouth became slightly sore.

Under this treatment the quantity of urine increased, and for a time she was somewhat relieved.

On the 14th of December she was as well, or rather better, than usual; took her breakfast; slept; awoke complaining of pain in the left arm, and, half an hour afterwards, died quite suddenly.

The body was examined 26 hours after death.

The heart (which forms this preparation) was of an enormous size, placed transversely, and quite uncovered by lung. There is a white spot, of the size of a shilling, on the surface of the right ventricle.

The right ventricle is enormously dilated, and its parietes are thicker and firmer than those of the left ventricle. The apex of the heart is formed by the right ventricle, which descended lower than the left. The left ventricle is not dilated or hypertrophied. Both auricles are greatly dilated, and were gorged with blood.

The mitral valves are joined together, and perfectly rigid, forming a permanent aperture which scarcely admits the tip of the little finger. A good deal of bony matter is deposited under the investing membrane of the valves; but there are no vegetations on their surface.

One or two extremely minute warty growths on the tricuspid valves.

The aortic valves are perhaps a little thickened; but in other respects they are perfectly natural, as are also the pulmonary valves and the aorta.

In this case the sounds heard on auscultation of the heart were much the same as in the case of Rogers. There was a systolic bruit, heard loudest about the apex of the heart, and to the left of the mamma, and therefore originating in the left cavities; but over the base of the heart the diastolic sound had its natural character, and no morbid sound was heard over the arteries of the neck. These circumstances showed that the

aortic valves were healthy, and led to the conclusion that the morbid bruit was caused by disease of the mitral valves. The dissection confirmed this in the most satisfactory manner. There was no disease capable of producing the systolic bruit but that of the mitral valves, which was such as to allow regurgitation of the blood during the contraction of the ventricle.

The two cases, however, offered a striking contrast as regards duration. In Rogers, the disease seems to have commenced about last Easter. She frequently assured us that she had no complaint of the chest, no difficulty of breathing, before that time; and the dropsy, which came on at the end of two months, never disappeared. The whole duration of the disease was little more than six months. Her death no doubt was accelerated by the inflammation of the cellular tissue of the leg, consequent on the punctures; but it was evident before these were made that she could not survive long.

Maria Peppler, on the contrary, lived five years after the first occurrence of dropsy; and the dropsy disappeared, and recurred again, several times before her death.

To what are these differences owing? They cannot depend on the degree of impediment to the circulation at the mitral orifice; for, as far as we can judge by looking at the two hearts, the impediment must have been greater in Peppler than in Rogers. Their true explanation is to be found in the fact, that there was enormous hypertrophy of the right ventricle in Peppler, while there was no hypertrophy at all of the right ventricle of Rogers.

In Peppler, the strong right ventricle sent forward the blood with unusual force, and compensated, in some degree, for the obstacle at the mitral orifice; in Rogers no such compensation existed. Comparison of the two cases shows, what I have so often had occasion to point out to you, the good effect of hypertrophy of the muscular tissue of the heart, when caused by mechanical impediment to the onward course of the blood.

Another interesting circumstance in the case of Rogers was the eruption on the face, that came on after she had been some time in the hospital. This eruption was what systematic writers have termed Acute Pemphigus; and is so rare, that Willan and Bateman doubted whether it ever occurs.

MM. Rayer and Biett have, however, recorded a few cases of it, in which the eruption followed precisely the same course as in Rogers — commencing as slightly elevated, circular spots, which were soon transformed into globular bullæ filled with serous fluid. At the end of two or three days the bullæ shrivelled and burst, and were succeeded by light brownish scabs. When the scabs fell off, the skin, which had been

the seat of the eruption, was left a brownish-red colour, and slightly scarred.

What was the cause of this eruption? From its coming out three days after she commenced taking iodide of potassium, I at first imagined that it might have been caused by this drug, especially as it was preceded by sneezing, and the other usual effects of the presence of iodide of potassium, in the blood. This supposition was, however, rendered improbable, by the circumstance, that we could not discover the presence of an iodide in the serum of the bullæ; and by the fact, that the eruption did not recur when she again commenced the diuretic mixture, which contained a still greater quantity of the iodide than the mixture she had previously taken. It probably originated in the morbid condition of the system, which occasioned the antecedent disease of the heart.

The eruption was not attended with fever; but, in spite of wine and tonics, it seemed to add to the debility of the patient, and was followed by a marked aggravation of all the previous symptoms, and especially by a rapid increase of dropsy.

This leads me to the last point to which I have to call your attention, namely, the effect of the punctures in the legs. These, no doubt, added to the sufferings of the patient, and hastened her death. I have long been aware, as I stated to you before the punctures were made, that the only cases in which this measure could be practised with safety are those in which the dropsy depends on mechanical obstruction, and where the serum poured out into the cellular tissue is of healthy character; that it would be very hazardous to make punctures in the legs of a person dropsical from granular kidney, because in that case the serum effused into the cellular tissue contains urea, and no doubt other excrementitious principles, which naturally pass off in the urine. The serum may be considered, in fact, as containing, in addition to its natural constituents, a small proportion of urine, which, as is well known, is extremely irritating, and apt to excite gangrenous inflammation of the cellular tissue.

The punctures were made in the legs of Rogers under the impression that there was no disease of the kidney. The urine, after her admission, was often examined, and found to be not albuminous; but, unfortunately, no such examination was made after the appearance of the eruption. Some disease of the kidney might have come on at the time of the eruption; but the small collections of pus found in the kidneys were probably consequent to the suppurative inflammation of the cellular tissue of the leg.

The case of Rogers should be a caution

to us, never to make punctures in the legs for the relief of dropsy, even when this depends on disease of the heart, until we have assured ourselves, by the aspect of the patient, the state of the urine, and the history of the case, that the fluids are in a healthy state. When such is the case, and when the dropsy depends on obstacle to the circulation through the heart, punctures made to allow the escape of the serum sometimes produce great relief; and an instance has come under my own notice in which this was repeatedly done, in the same person, for several years, without any ill effect.

The operation, though trivial in appearance, should, however, be in no case performed without certain precautions. Dr. Watson has judiciously remarked, that "the punctures should not be made too near each other; an inch and half should at least intervene between them. Neither should they be too numerous, or too deep. The depth must depend upon the circumstances of the case, and especially upon the place of the punctures. The needle should not be pushed so deep as to penetrate any fascia, for the danger of subsequent inflammation would thereby be much increased."

CONTRIBUTIONS
TOWARDS AN
ESSAY ON STRABISMUS.

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(For the London Medical Gazette.)

PART I.

Results of the operation in one hundred cases after the lapse of about twelve months. Cases of interest; with cursory remarks.

A SUFFICIENT period of time having now elapsed since the performance of the operation for strabismus in a number of cases, to enable one to judge, with some degree of precision, as to the results, I am induced to publish the following observations in the hope that, should my remarks prove devoid of interest, the facts on which they are founded may still furnish data for the deductions of others. It is very desirable to ascertain the real merits of the new remedy for strabismus. If, as some are of opinion, it was at first appreciated too highly, perhaps some of the profession are now inclined to fall into the opposite extreme, and condemn as indiscriminately as others

have praised it. An occasional failure, or incomplete success, is no argument against the utility of any measure when judiciously employed; and, were it not that we are all much more prone to ridicule than to examine what is new, would never be considered such. The same routine awaits every innovation, whether of grave or trifling import: adopted by some, laughed at by others, and criticised by all; as time tests its value, it is established as useful, or rejected as worthless.

In one hundred cases of convergent strabismus, after the lapse of from ten to fourteen months from the period of the operation, the following are the results:—

In three, there is divergent squint; in twenty-eight, the inversion is not completely removed, though in none is it as great as before the operation; in seven, the eye which was operated on is straight, but the other is slightly inverted; in sixty-two, both eyes are perfectly straight.

In sixty-one, there is an appearance of fulness of the eye, varying from an almost imperceptible to a marked degree. In the remaining thirty-nine there is no such appearance.

In twenty-three cases both eyes were subjected to an operation. Of these, in two instances only (Cases xxvi. and xxvii.), does one eye appear more prominent than the other.

In no case is the adducting power of the eye which was operated on *quite* to the natural extent, though in the majority it is almost this. In every instance the power of inversion is greatest when the other eye is closed; and in some under this condition, I could not satisfy myself that it was not equal to that of the fellow organ.

In the sixty-two most successful cases the power of vision has very materially improved since the operation. In most of them the eyes are now equally good.

In the remaining thirty-eight, vision, originally much impaired in the affected eye, is little if at all improved.

In seventy-nine double vision followed the operation. In sixty-five this disappeared within a month; in eleven, within three months; in two, within six months; and in one—now fourteen months after the operation—(Case xxv.) it still remains to a slight degree.

The statement, that where double vision follows the operation "the parallelism of the eyes has not been perfectly restored," is incorrect if applied universally. I have frequently heard the patient complain that everything appeared double, immediately after the operation, when the eyes were perfectly parallel.

In the following cases are exemplified facts, to which I shall have occasion to refer, and in most of them there are circumstances of practical interest.

CASE I.—Thomas Jones, Shepley, æt. 22, was operated on for convergent strabismus of the left eye. The eye became less inverted, but not straight. The inversion continuing, I proceeded, a fortnight after the operation, with the intention of searching for any adhesions which I thought might have been left undivided, but no sooner had the conjunctiva been cut through, the incision being more extensive than before, than the eye immediately became straight, and has since remained so.

This proves that an over tense state of the conjunctiva may sometimes assist in maintaining the distortion.

In these rare cases, Guérin's subconjunctival section would not answer. The choice of an operation on the straight eye, or of a repetition of it on the squinting eye, depends on the degree of everting power possessed by the latter. If the squinting eye was only slightly altered in its direction immediately after the operation, and if some weeks subsequently it can only be partially everted on closure of its fellow, the strabismus is probably kept up by some undivided threads beneath the tendon, by contracted ocular aponeurosis, or by contracted conjunctiva; and the remedy is obvious. If, on the contrary, the eye was straight immediately after the operation, or, though this were not the case, provided there is power of complete eversion on closing the straight eye, to repeat the operation on the same organ is useless; the corresponding muscle of the other must be divided, and, if the retina be good, the result will prove successful.

CASE II.—Thomas Jackson, æt. 30. Three months after the operation for convergent strabismus: eyes quite parallel, but he has been much annoyed by his inability to judge of the exact position of objects on account of double

vision. Soon after the operation he nearly fell into a lime-pit, from miscalculating his distance from it. The defect is gradually disappearing.

CASE III.—Ann Stanway, Macclesfield, æt. 30. Extreme strabismus of the right eye, of which the vision was much impaired. The inversion was but slightly diminished immediately after the operation, and remained "*statu quo*" for three days. On the third day, the eye for the first time felt rather painful, and was twitched outwards spasmodically for the remainder of the day. On the following day the right eye was perfectly straight, but the *left* eye became slightly inverted. This convergent squint of the left eye gradually increased until it was almost equal to the original one. An operation on this second eye was attended with perfect success.

That there existed partial palsy of the rectus internus from long comparative inaction, is, I think, proved in this case by the mode in which that muscle regained its power. The concurrence of the inversion of the other eye illustrates the consent between the rectus externus of one eye and the rectus internus of the other.

CASE IV.—Jonas Hindley, Staley Bridge, æt. 57; when five years old, was kicked by a horse over the outer canthus of the right eye. The scar yet exists. The right eye is everted, and does not move on closure of the other. Glaucomatous appearance beyond the pupil, except at the inner part. Can see a slight glimmer when the rays fall on this spot, but has not the least perception of a small object held before the centre of the right eye, the other being closed. The outer rectus was divided, and the sclerotica cleared of adhesions to a considerable extent, but still the eversion was as great as ever.

A fortnight afterwards: eversion as before, but there is now slight inversion when the left eye is closed; vision as before. A year later: no improvement.

In this (a case of luscitas) there was a reason for the existence of the distortion, arising from the state of the refracting media, which would only allow of vision in one position of the eye, independently of the contraction of the orbital textures, the result, probably, of inflammation after the kick.

The operation, as was predicted, proved useless.

CASE V.—Joseph Mills, æt. 30, had been the subject of divergent strabismus of the left eye for nearly eighteen years. Cause unknown. Outer rectus divided. Two months subsequently, this patient was seen by Mr. Fawcington and Mr. Broughton. The eyes were perfectly straight, and vision improved.

CASE VI.—Sarah Johnson, æt. 37. Convergent strabismus of the left eye. Vision much impaired; pupils equal in size whilst both are open, but when the right eye is closed, the pupil of the left dilates much more than does that of the right during closure of the left eye, proving the greater sensibility of the right retina. The rectus internus was enlarged; on its division, the eye was *fully everted for nearly a minute*, but then became straight.

Six months afterwards, the eyes were parallel.

CASE VII.—John Vernon, æt. 22. Convergent strabismus of the right eye, of which the vision is impaired. A year after the operation: both eyes straight; right the most prominent; its visual power not improved; thinks he sees dark specks with the *left* eye oftener than he used to do before the operation. Power of directly inverting the right eye imperfect. Diplopia when an object is nearer than four inches, the right eye being less inverted than the left; the shadow on the opposite side.

The man's appearance is improved; but as he cannot converge the eyes equally, attention to near objects produces temporary squinting and double vision.

CASE VIII. — George Hyde, 32, Hanover Street, æt. 14. Convergent strabismus of the right eye, of which the vision is very deficient. On closure of the left, the right eye becomes rather everted for vision of objects in front. Double vision for three months after the operation; when the object was *close*, the shadow appeared on the *opposite* side; when at a *greater distance*, on the *same* side.

A year subsequently: vision not improved. Adducting power not complete. Eyes perfectly parallel; but the right, from having a deeper fossa at its inner canthus, appears rather the fuller. Squints with the *left* eye when the object is nearer than four inches.

CASE IX.—Hannah Hyde, æt. 15, sister of the last. Convergent strabismus of the right eye, of which the vision is much impaired. A year after the operation: both eyes perfectly straight; the right rather fuller than the other. Power of direct inversion not perfect. Sight just as before, except that she not only sees dimly with the right eye, but, after looking earnestly at an object for a long time, that eye and her head aches.

CASE X.—Thomas Fawcett, Dukinfield, æt. 31. Convergent strabismus of the right eye.

Cause.—Strumous ophthalmia during childhood.

Very slight visual power in the eye.

Ten months after the operation: both eyes were parallel for a certain time, but the inversion has now partially returned; it is not nearly, however, to the original extent. Vision as bad as ever.

The three last are examples of the exceptional cases in which vision does not improve after the restoration of the natural coincidence of the eyes. In viii. and ix., as the eyes remain straight, it is not impossible that there may yet be an amendment.

CASE XI.—John Platt, Millbrook, Staley Bridge, æt. 21. Convergent strabismus of the right eye.

Cause.—Sore eyes when he was three years of age.

Can see as well with one eye as the other. He first began to squint with the *left* eye, when recovering from ophthalmia. A bandage was worn over the left eye for two months, and on its removal the *right* eye was found to squint.

When his attention is directed to an object a yard distant, the left eye is straight, and the right inverted. If the object be carried from the outside in front of the right eye, so as to be seen by the right eye passing from eversion to inversion, as soon as the object attains the median line, so as to require extreme inversion of the right eye, the left eye is everted and does not see the object. But if the object is *shewn first* to the left (sound) eye, and then carried in front of it to the median line, the right (squinting) eye is everted; but as it cannot be abducted so far as its fellow could under similar circumstances, its retina catches a glimpse of the object; the moment this occurs

the eye becomes inverted. If the distance of the object be two inches, by a voluntary effort he can make the eyes converge equally, but vision is confused; for a distance of four inches the convergence is unequal, the right eye being most inverted, and the object is seen distinctly. Three weeks after the operation: adduction incomplete; inner portion of the conjunctiva red and tumid; large button of granulations; a little pus between the eyelids in the morning. (He is employed in a hot factory, and stoops to his work). Double vision; beyond four inches, the image is on the opposite side; nearer than that, on the same side. The granulations were removed. Eighth week: diplopia gone. Vision, as before the operation, equally good in both eyes. To produce extreme inversion of either eye, the other must be everted. Both eyes parallel.

CASE XII.—James Thorpe, Cricket Lane, Ashton, æt. 38; convergent strabismus of the right eye.

Cause.—Variola when he was three years of age.

No opacity. Inversion not extreme, and vision but slightly impaired.

Three months after the operation: never had diplopia before or since. Adduction incomplete. If an object is distant enough to be visible to the right eye, the two converge equally; but when nearer than three inches, as the *right* eye cannot be adducted sufficiently to see the object, the right eye is everted, and the left only inverted.

CASE XIII.—William Smith, Toddington, near Bury, æt. 22; double convergent strabismus since birth. Whilst his attention is unexcited the eyes converge equally. If his attention be directed to an object, the eye used becomes less inverted than before, but very slightly so, being still far from straight, whilst the other is rather more inverted. He uses either eye indifferently, vision being equal in both.

He read small print at the usual distance, first with both eyes open, and afterwards with one, and then the other closed, equally without difficulty, and without alteration of the distance of the book. He cannot evert either cornea beyond the centre, whether the other be open or shut; the attempt to evert it more causes a little twitching inwards of the same eye to alternate with the efforts to produce eversion.

The internal rectus of the left eye was first divided; left eye straight; right unaltered.

Inner rectus of the right eye divided; both straight; power of eversion in each eye increased immediately after the operation, but still is not to the natural extent. Neither muscle was hypertrophied.

Two months after the operation: there is very slight (scarcely perceptible) inversion of the left eye; the right is perfectly straight. The left cannot be everted so far as the right; nor can the right be inverted quite so much as the other. An object near, but beyond three inches, occasions equal convergence. If nearer than that, the left eye is inverted, and the right everted.

CASE XIV.—Ephraim Smith, æt. 30 (brother to the last); convergent strabismus of the left eye. Vision much impaired; constant rotatory motion of both eyeballs.

Immediately after the operation both eyes became perfectly straight. Oscillation as before, but when, during eversion of the right eye, the left cornea is inverted, in extent for about two lines internal to the central position. Both eyes are remarkably steadier than when their direction is straight.

Two months subsequently: oscillation less marked, but still present; he had double vision for the first ten days; image of a distant object on the opposite, if near on the same side; vision much improved; almost, but not quite, complete power of inversion; he can invert the left eye most when the other is closed; on exposing the right eye now, it is found to be everted, but it immediately converges, and the other simultaneously becomes less inverted. The eyes are perfectly parallel.

My friends, Mr. Furnival and Mr. Royse, saw this case, and agreed with me in ascribing the oscillatory motion to the two oblique muscles, and the momentary improvement immediately after the operation, when the left eye was inverted as much as possible, to the more powerful contraction of these muscles when acting in unison as adductors overcoming their spasmodic quivering. It seems not at all unlikely that, in this principle, *partial* division of both recti interni might be of service in oscillation of the eyeballs.

CASE XV.—Thomas Burrows, Mill-

brook, æt. 19. Strabismus downwards and inwards of left eye, commenced when he was recovering from sore eyes ten years ago; strumous habit; had a discharge from his right ear before the ophthalmic attack; vision of the left eye so much deficient that he cannot read at all if the other be closed.

Three weeks after the operation: considerable redness and low granulations. By voluntary effort the left eye can be inverted *a little* in accordance with the other, but much more if the latter be everted. On asking him to invert the left eye, he either inverts the *right*, the other remaining straight; or he inverts the right, when the *left* becomes considerably everted. On closing the right eye, and directing him to invert the other, as the left is inverted, whether directly, or upwards and inwards, or downwards and inwards, the right is found to be correspondingly *everted*. If an object is carried from the outside in front of the right eye, the left is *abducted* as the right is *adducted*; but if by voluntary effort the left eye be now inverted a little, so as to catch a view of the object, it will become *central*, and remain so: the right being inverted.

There is double vision: the shadow, when the object is three yards off, is on the *same* side: when nearer than four inches, on the *opposite* side. When the right eye is closed, in order to see objects at a little distance, at two yards, the left eye is rather everted.

Three months after the operation: eyes quite parallel; vision improved, and diplopia nearly gone.

CASE XVI. — Hannah Whitehead, Staley Bridge, æt. 26. Convergent strabismus of the right eye. Congenital.

Ten months after the operation: eye rather fuller than the other, but perfectly straight; adduction not quite complete. Previously to the operation she had "only a glimmer" with the right eye, which used to water and feel painful when she looked earnestly at any object. *Multiple* vision for some time after the operation; single vision on closing the right eye; the shadows, when the object was at a greater distance than three inches, were on the opposite side.

CASE XVII. — Wm. Ayre, 39, Queen Street, Salford, æt. 17. Convergent strabismus of the right eye.

Cause. — Imitation four years ago. Visions lightly impaired.

Double vision for a week after the operation; the shadow on the opposite side, unless the object were too near. Three months subsequently: perfect parallelism, and no undue prominence of the right eye; vision improved; perfect power of moving the eyeballs together from side to side; both eyes converge equally for an object a few inches distant; adduction of the right eye almost complete. If asked to view an object directly inwards, that is, at the root of the nose, he can invert the right eye most, when the left is closed, and, as is seen on lifting the eyelid, *straight* in its direction. If the right eye follows an object from without to within, the left eye is everted, until by reaching the median line the object is seen by it, when the left eye becomes inverted, and the right eye correspondingly less so; and the convergence is thus rendered equal.

CASE XVIII. — Leah Varley, Sta Wood, æt. 40. Convergent strabismus of the right eye.

Cause. — Variola during infancy; no opacity.

Fourteen months after the operation: she had *multiple* vision for the first fortnight; vision improved, but not equal; eyes perfectly straight; the right slightly more prominent than the other; perfect power of moving both eyes together from side to side; when the left eye is closed, the right can be completely inverted towards an object, but the former is found on exposure to have been everted at the time. The moment that the lid is raised, the left eye becomes inverted to, and the right everted from, the object.

This case well illustrates what will be hereafter dwelt upon—the powerful consent between the abductor of one eye, and the adductor of the other. That there is no absolute inability fully to invert the right eye is proved by the degree of voluntary inversion on closing the left. Why, then, does the right eye become everted on opening the other, and directing it towards a near object.

The left eye, being the best, on seeing the near object, is inverted, in order to view it more distinctly; its rectus internus, by contracting, excites the rectus externus of the other eye.

CASE XIX. — Jane Burrows, Staley

Wood, æt. 24. Convergent strabismus of the left eye of fifteen years' duration.

Cause.—Ophthalmia; no opacity.

Fourteen months after the operation: eyes perfectly parallel; no undue prominence; vision of left eye deficient previously; not improved materially since the operation. If the right eye is closed, the left becomes rather *everted* for objects distant a few feet; and if she directs her fingers towards a nearer object, she touches something more or less distant on the *same side* as the eye. To view an object three inches distant in the median line, the left eye is most inverted, and the right straight; there is diplopia, the shadow being seen opposite to the left eye (that is, on the same side), but belonging to the *right* eye. If the object be brought nearer, the left cornea assumes a central position, and the right becomes inverted. A dim shadow is now seen by the *left* eye, on the *opposite* side; that is, as if in front of the other eye.

If the right be closed, and the left voluntarily inverted, the former is everted at the same time.

CASE XX.—Jane Massey, 23, Garden Street, Manchester, æt. 41. Extensive convergent strabismus of the left eye.

Cause.—Fright, thirty-three years ago.

Three months after the operation: eyes perfectly straight; vision much improved; slight diplopia when looking at an object situated to the outside of the right eye, to see which the right eye is everted, and the left inverted; the shadow on the opposite side; power of inversion almost complete.

As the left is not quite inverted enough to correspond with the eversion of the right, the rays from the object can fall only on non-coincident points of the two retinæ. For single vision, either the natural centre of acute vision (the vertex of the eye), or the acquired strabismic centre, must correspond with the optic axis of the good eye. In one position in which this correspondence cannot be effected, there is double vision.

CASE XXI.—Giles Barbour, Millbrook, ætat. 20. Squints occasionally, when he is hurried or frightened. Says he has done so only since he had sore head and eyes, at eight years of age. The eyes are quite straight in every position except one. When he looks downwards at an object directly before

him, the right eye is more inverted than its fellow. Never has double vision.

I divided, as nearly as I could judge, the lower three-fourths of the tendon of the rectus internus just at its insertion. No alteration in the axes of the eyes.

Three months subsequently: the eyes have remained perfectly straight; he has never squinted since the operation.

CASE XXII.—Henry Greenwood, Crompton, near Oldham, æt. 7. Chronic peritonitis with ascites. Frequently squints for an instant with the left eye. If he is hurried, the inversion recurs several times in a minute.

CASE XXIII.—James Welsh. Mesenteric disease. Squints occasionally with either eye. Both eyes can be converged equally; either may be inverted involuntarily; the other remaining straight, or both may be perfectly straight at the same time. Sometimes he is not observed to squint oftener than four or five times in an hour; but when irritated, usually as many times in a minute. A month subsequently, when the abdominal affection had been in some measure relieved by medicine, the squint recurred much less frequently.

The two last, of course, were not fit cases for the operation.

CASE XXIV.—Jane Birley, Dukinfield, æt. 14. Convergent strabismus of the left eye.

Cause.—Sore eyes.

A year after the operation she applied, complaining of dull aching pain of the left eye, increased by attention to minute objects. The eyes are quite parallel, but she has double vision: the shadow, when the object is farther than three inches, being on the opposite side. She says she can *see as distinctly with one eye*, its fellow being closed, *as with the other*. On closing the right eye, the axis of the left is not altered for distinctly viewing an object in front. The disagreeable confusion from diplopia had caused frequent headache. A few leeches, aperients, and an astringent collyrium, removed all uneasy sensations.

Fourteen months from the operation: the double vision is less troublesome, and appears to be gradually wearing away.

In this instance there were two cen-

tres of vision in the left eye; the natural spot of *most acute* vision at the vertex, and the acquired strabismal *centre of correspondence* with the vertex of the right eye. The first accounts for the straight direction of the eye when viewing an object most distinctly, the other being shut; the second occasioned the double vision, when both eyes were open *and parallel*.

CASE XXV.—Mrs. Bridge, 30, Back Acton Street, æt. 22, had been operated on for convergent strabismus of the left eye, a fortnight before I saw her. The left eye is now perfectly straight, but the right eye is inverted.

I divided the internal rectus of the right eye. Both eyes were straight.

A month after this last operation, the right eye appeared rather everted.

Ten months later: the right eye continues slightly everted, producing a divergent squint. I divided the tendon of the rectus externus of the right eye. Both eyes were again straight.

A fortnight from the last: eyes still parallel.

Two months from the last operation: the right eye is directed downwards and outwards, once more producing a slight squint. She possesses almost complete power of moving either eye in every direction, except that of directing the right cornea upwards and outwards, or directly outwards, which cannot be effected quite to the same extent as in the left eye. When she is not paying attention to any object, the eyes are straight; but when she wishes to see distinctly, the right eye becomes rather everted. The vision of the right eye is so bad, that she cannot see to read when the other is closed; it is no better than before the first operation. During the attempt to see an object distinctly with the right eye alone, there is eversion, showing that the most sensitive part of the retina is that on which light can impinge with such a position of the eyeball. The spot of acute vision must be external to the vertex of the eye.

The sight of the left eye is good.

She was desirous of undergoing a fourth operation, if by that she could be assured that the defect would be eradicated. But conceiving the deficiency of retinal power to be confirmed, further interference was thought useless.

I attribute the downward and out-

ward direction of the cornea, which constitutes the present squint, chiefly to the action of the obliquus superior. Division of this muscle might rectify the mal-direction, but only for a short time.

CASE XXVI.—Miss H., æt. 20, of delicate constitution; extreme convergent strabismus of the right eye. The internal rectus being divided, both eyes became straight.

Two months subsequently, the right eye rather more prominent than the other, which has become inverted. The internal rectus of the left eye was divided. Both eyes parallel.

Ten months after the last operation: the right eye is slightly everted, but on closing the left it becomes straight.

Before the first operation the visual power of the right eye was very slight, and is still inferior to that of the left eye. Eye practice was used until its repetition was thought too tedious by the patient.

The failure of dividing the abductor in the previous case (xxv.) dissuades me from proposing any further operation here. The two last are instances of failure in the greatest extent, yet each patient has now a slighter degree of defect than before the first operation. I think it not impossible that the retina of the distorted may become in time so far strengthened, as to enable it to accord with the better eye; in which case I believe the squint would disappear.

CASE XXVII.—Miss B., æt. 27, Congleton, underwent the operation for convergent strabismus of the right eye, of which the sight was very defective. The eye became again inverted, though not to the original extent; but now, after the lapse of six months, as the visual power has increased, it is much straighter, though not perfectly parallel with the other.

CASE XXVIII.—John M'Coy, Pilling's Buildings. The right became much everted on division of the rectus internus for convergent squint, and remained so for seven weeks; but it afterwards gradually became perfectly straight, and now, a year from the operation, remains so.

CASE XXIX.—John Wood, Bury St. Bank Top, æt. 59, has had convergent strabismus of the left eye ever since he can recollect. Visual power of that eye very deficient.

Twelve months from the time of operating: immediately on the division of the adductor, the eyes were both straight, and remained so for several weeks; after which the left gradually became everted, and there is now divergent squint of the left eye. Vision not at all improved.

CASE XXX.—Jane Jackson, æt. 17; convergent strabismus of the left eye. Visual power nearly equal in both eyes.

The rectus internus was found to be much enlarged, and on its division the eye was jerked outwards, and remained rather everted from the moment of the operation.

There was divergent squint and double vision, and the eye did not straighten on closure of the other. Two months after the first operation I divided the rectus externus of the left eye. Both eyes have since remained straight, and she can now see as well with one as the other.

In this instance, as the retina was not more impaired than the mal-direction of the eye would account for, I concluded that the eversion was due to the contraction of the rectus externus, which had been habituated to overaction, in order to antagonise the hypertrophied rectus internus.

CASE XXXI.—Mary Scott, æt. 34, wife of a dragoon serjeant at the barracks. Convergent strabismus, with milky cataract of the right eye. At the upper and outer corner of the pupil the opacity is less dense than elsewhere. By five operations with the needle the cataract was removed; and in nine weeks from the first there was a clear black pupil. The internal rectus was now divided; the eyes were parallel.

Two months subsequently: the eyes are perfectly straight, and she says the right eye is useful to her.

CASE XXXII.—Ann Speakman, æt. 31, No. 89, Water Street. Twenty years ago received a fork wound in the right eye, which was followed by convergent strabismus and cataract. I broke up the opaque lens, and it became quite absorbed after one operation. The operation for strabismus was afterwards performed by another person.

Eight months subsequently: the eyes remain straight, and she employs the right eye.

[To be continued.]

ILLUSTRATIONS

OF THE

PATHOLOGY, DIAGNOSIS, AND
TREATMENT OF OPHTHALMIC
AFFECTIONS.

BY E. O. HOCKEN, M.D. M.R.C.S.L. &c.

[Continued from page 428.]

(For the Medical Gazette.)

Ptosis, with subacute active Retinitis.—Sympathetic Amaurosis, &c.—Changes of colour in the Iris.—Curious pathological condition from Syphilitic Iritis.

In a previous communication I mentioned in a note the fact, that slight ptosis of the lid, corresponding to the eye affected, existed occasionally independent of any cerebral origin of the malady. Having taken notes of a somewhat curious case of retinitis, which came on after a severe injury in which such a symptom existed, I will commence this paper by its narration, in order to prove my previous assertions. I would wish to premise, however, the sense in which I employ the terms active and passive, acute and chronic: the latter I apply to denote the manner of attack and *duration*, the former to specify the *character* of the local disease, whether derived from local or constitutional causes.

CASE.—*Subacute active retinitis of the right eye, with slight ptosis of the right eyelid, coming on after a severe injury.*

John Peak, ætat. 27, was admitted in September, 1841. He is a powerful, active, healthy-looking man, who, according to his own account, has always enjoyed good health, except from the effects of accidents. He is a farmer's labourer, and his employments have been chiefly in the open air. About ten weeks since he met with a severe accident: he was working with a pickaxe at a high bank, when it fell in on him, and severely bruised his right side and arm. About two months since (a fortnight after the accident), he found the sight begin to fail in the right eye without any obvious cause. His vision failed gradually; he became impatient of the influence of light, and frequently saw sparks and flashes of light before the eye, with severe pain and ten-

derness in the globe itself. He had frequent headache, and pain over the brow; the latter symptom invariably increased towards night. The pain and dimness of vision principally attracted his attention. He attributed the ophthalmic affection to the injury; at all events he knew no other cause which could possibly have produced it.

There were still marks of injury in the situation of the parts struck. Such marks of injury existed immediately in front of the prominence of the internal condyle of the os humeri; but he positively denied having received any injury on the head, or about the face, and no marks of such were anywhere visible. The effects of the blow on the side had nearly passed off, but not so that of the arm. He complained of shooting pain immediately external to the internal condyle, and in the course of the ulnar nerve, affecting the little and half the ring fingers; of muscular weakness of the forearm, and almost complete loss of sensation of the inner and front part of its integuments.

The eye appears somewhat sunken, and feels flaccid to the touch, whilst the fundus is rather more opaque than natural, from a deep-seated buffy discoloration; the pupil (right) is considerably more contracted than its fellow, and possesses scarcely any motion on the alternation of light and shade; the iris is of a light blue, and exactly the same colour as the opposite iris, the pupillary edge being quite healthy. A slight zone surrounded the cornea of very fine, straight, claret-coloured vessels, especially at the upper and lower part of the inner canthus, and several enlarged vessels (scarlet) ramified in the conjunctiva oculi. The upper eyelid of this eye hung rather lower than its fellow—an affection which came on with the disease, and had not previously existed: it was but slight, covering about the upper half of the pupil.

The patient complained of considerable imperfection and dimness of vision, which, he stated, was always worse, and the lid hung lower, in the morning. When he closed the left eye, objects appeared misty, distorted, and confused with the right: there occurred frequently dull aching pain in the globe, with flashes of light and sparks; severe pain in the forehead, shooting towards the back of the head; dull aching pain over the head, always increased towards

night. The pain both in the eye and head have decreased lately, but the dimness of sight rather increases.

He has been in the hospital about six weeks, during which time his chest and arm have become much better; but his general health has deteriorated. His tongue is flabby and coated, his appetite poor, and his digestion palled, and his bowels frequently require the assistance of aperients. The skin is cool, but somewhat dry, and the feet and hands become hot towards night. As he complained but little of his eye, and came in from the effects of the accident, little treatment was especially directed towards that organ: alteratives, sudorifics, and occasional purgatives, were employed.

Diagnosis.—These were the symptoms evidently of subacute active retinitis in its mildest form, having proceeded to some slight effusion of lymph into the texture of the retina: the dullness of vision, the opacity of the fundus, and the zonular vascularity, abundantly testified to this, and clearly indicated the employment of mercury.

During his stay in the hospital the acute symptoms of the affection, although never severe, were much relieved; but his vision became more misty and distorted, although the degree of imperfection was not increased, and the intolerance of light nearly disappeared.

On the 21st of September the symptoms continued the same; vision as obscure as before; symptoms of advancing disease less.—To continue.

October 14th.—Better; fundus less misty; vision clearer. The patient continued to improve.

REMARKS.—In the foregoing case we find the symptoms commencing about a fortnight after the receipt of an injury to the side and arm, to which the patient confidently attributed the affection, but which injury never had occasioned any disturbance in the functions of the brain. We may propose the questions, 1st, Was there any connection between the ophthalmic affection and the receipt of the injury? 2nd, What was the nature of that connection, supposing one to exist? In the arm, the ulnar, internal cutaneous, and perhaps some other nerves, were deranged by the blow, but there were no other indications of injury to the nervous system; hence, although the retinitis

occurred after the injury, I do not see any reason for assigning this as its cause; nor even, if we could imagine it thus to have been caused, could I suggest any explanation of its *modus operandi*.

As regards the dropping of the lid, the details of the case give but little clue to its explanation; it depended, I presume, on some affection of the branch of the third nerve to the levator palpebræ. In some instances of partial ptosis evident symptoms of derangement or disease have existed in some other parts of the orbital nerves. I spoke of such cases in my last communication. The symptoms were such as I have usually observed in this form of inflammation of the retina: in this respect the case of John Peak coincides with some others which I have previously recorded, but at present I do not intend to pursue this subject.

In some future papers I trust to illustrate many of the forms of amaurosis from general hyperemia of the visual nervous system, on the divisions and diagnosis of which I have already written. At present I wish to treat briefly of sympathetic amaurosis. By investigation we find, that derangement in distant organs, as the stomach, intestinal canal, and uterus, produce sympathetic maladies either directly through the blood-vessels, by determination or congestion of blood, effected by a diminution in the nervous tone of the blood-vessels locally, and an alteration in their vital relations to the surrounding parts, by which the due relation of the force exerted by the blood, and the resistance offered by the coats of the blood-vessels, is disturbed: the latter yield, become distended, and contain an excess of the circulating blood; or, on the contrary, the way of production seems to be effected entirely through the nerves, and then the exact mode of action is much more obscure. Sympathetic abdominal amaurosis is most frequently produced by the *modus operandi* first described, sympathetic uterine by the second. I will now narrate a case of sympathetic gastric amaurosis.

CASE.—*Amaurosis of both eyes; divergent strabismus of the right eye, from sympathetic abdominal irritation, preceded and accompanied by ptosis.*

William Northcote, ætat. 36, is a healthy fresh-looking man, of sanguine

temperament. He is employed about some manganese mines, but accustomed chiefly to out-door employments. His right eye became deranged about four years since. It commenced with muscæ and dimness of vision; the attack being preceded by severe indigestion, nausea, and occasional attacks of severe burning pain in the epigastrium, with acid eructations,—which symptoms continued whilst the sight failed gradually. About four months ago the sight of the left eye became affected—his sight in this eye was lost suddenly whilst at work. He suffered most severely from pyrosis for some time previous to its occurrence, bringing up a large quantity of transparent acid liquor, usually in the morning after his breakfast, but occasionally at other times, if he chanced to work harder than ordinarily. At the same time he suffered from other symptoms indicative of indigestion, and the common sympathetic phenomena of derangement in the digestive functions. He describes the occurrence of blindness in this eye as very sudden, coming on whilst at work in digging manganese. He saw quite well in this organ, and then so suddenly became blind that he likened it to the hand being instantaneously placed in front of it. At the time of its occurrence he fancied he saw numerous sparks and flashes of light, and fantastic shapes of more opaque substance, flitting before the eye—appearances which have continued to trouble him ever since.

Causes.—He is not aware of any other predisposing or exciting causes which could have favoured or induced the affection, save the greatly deranged state of stomach, &c. which preceded and accompanied the separate attacks.

Symptoms.—At present he complains of dulness and imperfection of vision in both eyes, with either of which he is able to see objects but dimly, and to an equal extent with either. Muscæ and luminous objects sometimes flit before his eyes, but are not at present so troublesome as formerly. He complains of headache, and occasional pain in the globes; which last, he says, is by no means so severe or frequent as it formerly was.

The right eye is affected with divergent strabismus, and both globes appear more vascular than natural, the right in particular. The irides are light coloured; the right grey, but the left of

an uniform dull greenish hue*. The pupils are not dilated when both eyes are open, but the right dilates when the left is closed, and possesses no independent motions from the alternate influence of light and shade; the left pupil, however, does not dilate when the right eye is closed, and it moves freely when tested by the alternation of light and shade. The vessels of the head appear full and distended, whilst the countenance is flushed and tumid.

Since he has been an in-patient of the infirmary he states that his health has been good, with the exception of headache, to which he is extremely liable; that his appetite, digestion, and the condition of his bowels, have been healthy and regular. His tongue was moist, but swollen and flabby, and covered with a whitish fur; his pulse good; and there is complete absence of any nocturnal fever.

Since his admission his health and sight have improved; and, as he has only been under treatment a fortnight, his case appears comparatively favourable. He was admitted on the 3d September, 1841.

The treatment employed was mild and regular diet, repose of the organs, and the Pil. Hydrarg. grs. v. omni nocte; Pil. Colocyn. c. Ant. Potass. Tart. p. r. n.

Having continued under treatment some weeks more, his general health declining, and his vision remaining without improvement, he was discharged in October as "Not benefited."

REMARKS.—The separate occurrence of blindness in the two eyes at the interval of nearly four years, although commencing and progressing with such different symptoms as regards rapidity and severity, were, I feel little doubt in stating, essentially similar in their pathology and pathological causation, although the *modus operandi* was sudden in the last instance, but slow, prolonged,

and progressive in the former. The remote pathology in both instances was clearly gastric derangement, which preceded and accompanied their origin, and complicated their further progress. In the first attack, it was that condition which produced the more ordinary phenomena of gastric dyspepsia and gastrodynia; in the second, pyrosis, viz. attacks of burning pain in the pit of the stomach, chiefly after breakfast, with eructation of a considerable quantity of a clear, colourless, acid liquor. Among other sympathetic symptoms, derangement of the cerebral circulation, with hyperæmia of the visual nervous system generally, seems to have been produced. In both cases (attacks) the hyperæmia came under the denomination of "determination" of blood; in the first, this local alteration of circulation was mild and gradual in its accession and chronic in its progress; whilst, in the second, a more acute attack of a similar kind was doubtless superadded to the previous condition, at once destroying vision—the condition of the vessels themselves predisposing—subsiding, however, shortly afterwards to its pristine state of derangement, or, at all events, a derangement not much more severe. If we examine the case, we shall find those symptoms present which indicate that local pathology which I have now sketched. There were present muscæ, luminous spectra, pain and preternatural vascularity of the globes, great tendency to headache of a pulsating kind, a flushed and tumid countenance, whilst the vessels of the head appeared full and distended.

I presume that the natural colour of this man's irides were grey, and that, therefore, the right retained its normal shade, whilst the left had undergone an uniform discolouration. My note-book says it was of an uniform dull greenish hue. It had not, however, lost its natural brilliancy or radiated appearance, nor was there any irregularity or roughness of its surface or pupillary edge, nor any displacement or bulging forwards, with or without thickening of its structure; hence I conclude that this alteration of colour was not inflammatory, but probably effected by some alteration of the pigmentum nigrum lining the inner surface of the iris, which constitutes the "uvea," and deriving its origin from other changes produced by

* An uniform change of colour may be produced in the iris from other causes than inflammation. I have a case on record of amaurosis and change of colour in the iris, both produced by a severe blow on the eye. A gentleman was struck by the case of a rocket, which was driven against the eye and orbit with considerable violence from its explosion; the eye was rendered immediately amaurotic, and the iris changed to a dull yellow colour. Under suitable treatment vision was restored gradually, the iris retaining its abnormal colour for some time; but, after several months, it gradually regained its proper aspect, and presented no difference in its appearance from its fellow.

the general hyperæmia. As change of colour in the iris may be occasioned by sudden violence applied to the eye, and other causes acting more gradually during life, we may readily imagine this to be the case when we take into consideration the fact, that we are quite unable to account for the diversities of colour during health, and hence, of necessity, quite unable to explain the reasons for change of colour, and particular changes of colour, during disease; for if we examine separately (removed from other parts of the eye) those irides placed side by side, which during life have been of the most various and opposite colours, we shall find them all producing an exactly similar impression of colour on our visual organs—a dull greyish brown.

Strabismus affected the right eye, which was turned abnormally outwards—a fact which coincides with my previous observations, that cases of divergent strabismus are nearly always produced, or have been produced, by sympathetic derangement from abdominal disturbance. In proportion as the harmonious relation of function subsisting between the two eyes was disturbed, so in like manner their harmony of motion ceased, the globe became permanently everted, and maintained this relative position in the various movements of the eyeballs.

The treatment to be pursued in similar cases is a matter of some interest. It resolves itself into the treatment of the remote and of the proximate pathological cause, the correction of the gastric derangement according to our best present knowledge; and the treatment of the local hyperæmia by cupping from the nucha, according to those indications and contra-indications which the particulars of each individual case can alone supply; efficient counter-irritation in the neighbourhood, by the tartar emetic ointment, a gentle continued constitutional action of mercury, the employment of measures calculated to keep the head cool and the feet warm, and attention to the general health. But I have already more fully explained the particulars *pro et con* in the *Lancet*.

As some pathological changes in the iris have engaged our attention in the present paper, I can scarcely conclude it better than by narrating a curious

case of alteration in its colour, appearance, and condition.

CASE.—A middle-aged man presented himself as a patient on the 19th of August, 1841, complaining of great impairment of vision in both eyes. He applied chiefly on account of a paralytic affection of his arm, following a fracture of the upper third of the humerus. His hearing was also very imperfect.

On examining his eyes I found the ciliary ligaments bulging around both cornea; the irides of a dull leaden colour; and attached around the ciliary circumference were a number of opaque, whitish, flocculent masses, which floated in the anterior chamber, and acquired a vibratory motion by any movement of the eye, head, or body generally. The pupillary edges were unaffected. The iris looked as if it had lost the thin smooth covering of the reflected aqueous membrane, which, with the connected *cordeæ tendineæ*, were hanging in shreds. He had suffered from syphilis some years previously, and had been actively treated some months back for acute inflammation of both eyes;—doubtless syphilitic iritis.

15, Southampton Street,
Covent Garden.

[To be continued.]

ON DEAFNESS

FROM MORBID CONDITIONS OF THE MUCOUS
MEMBRANE OF THE STOMACH AND
THROAT.

BY JAMES YEARSLEY, Surgcon.

(Continued from page 438.)

(For the *Medical Gazette*.)

IN the second stage of deafness from a morbid state of the mucous membrane, where the inflammation, if at all present, is of a purely chronic character, and where the membrane is thickened, and its secretion in the throat, nose, and ear, considerably increased, counter-irritation by moxa, blister, or emetic tartar, applied behind the ear and along the inner margin of the lower jaw, and catheterism, with the air-douche, promise favourable results. These local measures are, however, successful only after the most strict and unremitting perseverance. Many of such cases, especially when complicated with, or arising out of, stomach ail-

ments, derive remarkable benefit from the use of the Hydriodate of Potash given in *small doses* of one or two grains largely diluted. This preparation exerts a beneficial influence on the mucous membrane of the throat and ear; it will often lessen the secretion of mucus within the ear, reduce the tumefied membrane of the throat, nose, and ear, to the healthy condition, and altogether remove tinnitus. When the meatus has been void of wax for months, it will frequently occasion the gradual return of the ceruminous secretion. Certainly no medicine that I am acquainted with has an equally beneficial effect on the ear with this, when given as I have specified in *small doses*, and persisted in for a considerable time. Its therapeutic powers accord with the principle of *similia similibus curantur*, the first effect being to excite an inordinate action of the mucous surfaces; generally after three or four doses the patient experiences sneezing, headache, heaviness, and drowsiness, rapidly followed by an increased secretion from the eyes and nose, with all the symptoms of common influenza. Unless prepared for the result, the patient reports himself to have "taken another of the colds to which he is so subject." These catarrhal symptoms, however, soon disappear, and not till then are we to expect improvement, for during the persistence of these first effects of the medicine the patient will experience an increase of deafness the same as from a genuine cold.

The indication of diminishing the secretion and disgoring the mucous membrane can be assisted materially by the use of astringent gargles. The one I find most serviceable is composed of Alum. Potass. Sulph. \mathfrak{zj} . Infus. Rosæ. Co. \mathfrak{zviij} . which will always lessen the secretion from the throat, and remove nausea and other unpleasant sensations occasioned by its relaxation. When the signs obtained by the air-douche and stethoscope shew unequivocally that the lining of the cav. tympani is thickened, its resolution is assisted by the daily application of an iodine ointment behind the ears, and along the inner margin of the lower jaw.

When the state of ear disease now treated of exists, the occurrence of severe catarrh, or an attack of acute

indigestion, may convert it at any time into a more active form, requiring to be treated on the principles laid down when describing the management of deafness from an inflammatory condition of the throat and ear.

During the stage of thickening and increased secretion within the ear, the kind of otorrhœa I have termed spontaneous sometimes occurs, the irritation extending from the middle ear to the external meatus. When this discharge exists it is of no great consequence, as has been supposed, to diagnose between the mucous and purulent varieties; they run one into the other, the purulent being usually subsequent to the mucous. The sudden arrest of such discharge should never be attempted; it generally produces an aggravation of the deafness, besides a liability to otitis, and disorganization of the ear, or even still graver forms of disease. Astringent injections always incur the danger of such evils, and therefore should never be used. They offer little temptation to their employment in any case, because they never benefit the patient but by stopping the discharge, which, if done, is at considerable hazard, and is of itself but the relief of a small part of the malady.

In the treatment of otorrhœa, I always limit myself to the use of a solution of sulphate of zinc and alum, one or two grains of each to the ounce of distilled rose-water, to be increased but to a very slight degree. This I direct to be applied to the walls of the meatus by a camel-hair brush once or twice a day. This solution, if perseveringly used for a month or two, will generally lessen or stop the discharge without injuring the sensibility of the membrana tympani, as an injection would. It may seem a tedious process, but there is no great inconvenience attending the application; and I know of no other mode of arresting external ear-discharge without still further endangering the organ of hearing. One benefit attending the use of this solution is, that it entirely removes the disagreeable fetor of most chronic ear-discharges: this alone would render it of great value in the treatment of aural disease; but it seldom fails to moderate the discharge, where there are no fungous growths in the canal, or erosion of the membrana tympani.

One of the most striking forms of

deafness, and fortunately one most easily remedied, is that in which, after catarrhal inflammation of the Eustachian tubes, the tubes and middle ear are gorged with thickened mucus, which often remains fixed the whole life-time, unless accidentally displaced by a sudden respiratory action, as sneezing, or during the effort of vomiting. The most rational way of cleansing out the obstructed cavities would seem to be the injection of tepid water through an Eustachian catheter, as performed by Wathen. The same end is obtained, and much more agreeably to the patient, by the injection of compressed air after the manner of Deleau. I adopt the latter, and find that a few operations, or even one, will break down the agglutinated mucus, and admit air to the tympanum, so as to reproduce the hearing in a most remarkable manner. After air has once been admitted, it stimulates the membrane to pour out a fluid secretion (capable of being heard by the stethoscope), which appears to carry off the dissolved fragments of mucus by way of the tuba Eustachii. Such cases are by no means rare, and would alone be sufficient to confer value on Eustachian catheterism, even were there no other uses to which it could be applied in the treatment of deafness.

I now pass to the treatment of the third form of deafness, namely, where it is fully formed, but where the active stages of the disorder have entirely disappeared, leaving a thickened state of the mucous membrane, but an almost entire absence of the natural secretion both in the middle ear and the external meatus. The disorder thus marked is by far the most frequent among the cases which come before the medical practitioner. The deafness is here sufficient to debar the patient from much of the ordinary intercourse of life; and until this is actually the case a great number do not seriously think of seeking any remedy; they live on, flattering themselves that because they hear tolerably well at certain times, a change for the better must, sooner or later, occur.

There is, however, no hope of procuring a sudden change to the healthy state where disease has advanced thus far. Stimuli, such as electricity, galvanism, or irritant external applications, do in some cases produce strik-

ing improvement, but when the excitement of the organ has passed over, it invariably falls into a more distressing state of torpidity. For this reason such remedies are worse than useless.

The use of the air or vapour-douche, through the Eustachian tubes daily, for a considerable time, possesses more power over the disorder than any other means with which I am acquainted. It will not often effect the cure, but it will generally afford considerable relief. It has often enabled me to set down an ear-trumpet, and give as great a degree of hearing without the instrument as has been previously enjoyed by its assistance. Patients also experience a great degree of comfort from the use of the air-douche, even where no actual improvement is perceptible. Disagreeable sensations in the ears generally attend deafness, which the use of the air-douche dispels for several days. I have often had to catheterise for months, at intervals of two or three days, persons whose deafness I had pronounced incurable, but who persevered in the operation from the comfort it afforded. The use of the air-douche simply, is often of much service in promoting the return of the membranes of the middle ear to the natural condition, restoring the mucous secretion to the dry surface, and favouring the secretion of wax in the meatus externus. After a time the stream of compressed air does not produce so good an effect as at first, upon which I omit the air, and commence with medicated vapour, using a few drops of sulphuric ether, which, diluted with water, and having the air passed through it before entering the ear, impregnates the air sufficiently to render it inflammable. Much more may be effected by the alternate use of air and vapour than by the continuance of either; or this plan may be suspended altogether for a short time, and resumed with great effect. If it restores the secretion to the middle and external ear, the hearing is sure to be improved.

The use of the air and vapour-douche may be accompanied by other means to invigorate the constitution when this is required, and for the removal of any local disorder. I usually prescribe a course of sarsaparilla and the hydriodate of potash, in the doses adverted to when treating of another part of my subject. No medicine does so much good as this in the advanced stages of

deafness. When the external passage is entirely dry it will often render the canal moist, and call forth the secretion of cerumen. This alone is a great service; as, when all moisture is absent, the sensations are so troublesome as to give rise to frequent rubbing or picking, which disappear when the meatus contains a due quantity of ear-wax. The promotion of the secretions affords great relief in some cases of tinnitus, though I am as yet uncertain what kind is thus benefited, tinnitus being by no means invariably attendant on a dry state of the meatus. I believe it will generally be found that tinnitus is caused by a morbid sensibility to the circulation of air in the meatus and middle ear, and the variations of atmospheric pressure upon the memb. tympani, caused by different conditions, as occlusion or constriction, of the Eustachian tubes. I think the resemblance between tinnitus and the sounds heard by listening to a shell or hollow stone is favourable to the opinion I have here advanced.

Counter-irritation will not often be of service in deafness of long standing. Ointments, containing veratria or strychnia, may be worth a trial, applied behind the ears; certainly not to the meatus. Gargles should be used where any relaxation about the throat is complained of; and, in the very chronic cases, I also frequently advise patients to take a pinch or two of snuff morning and evening, so as to produce sneezing. Where, from the circumstances of the patient, frequent catheterism is impossible, this is the best substitute, producing, in a great measure, the refreshing effects of the air-douche.

When the sense of hearing is greatly impaired, the small amount of sensibility is of excessive value; therefore every conservative measure which I have recommended on the first failure of hearing, should be of additional importance to the confirmed deaf, so that, at all events, every effort may be made to stay the natural tendency of the decaying sense to arrive at complete extinction.

If I were asked to name, in the order of their importance, the chief causes which give rise to the condition of throat and subsequent loss of hearing I have described in previous papers, I should place them—1. Cold; 2. the exanthemata; 3. dyspepsia; and, lastly,

mercurial medicines. Some of the extreme and most unmitigable cases of deafness I have ever witnessed were produced by severe salivation; and I must confess that I never saw a case of this kind of any standing which derived decided benefit either from local or constitutional treatment. If there is in the materia medica a medicine which has the power of acting as a poison to the sense of hearing, where there exists a predisposition to deafness, I believe it to be mercury. Of course my strictures are directed, not so much against its exhibition as a purgative or alterative, though even here it is dangerous to the deaf, but when given with a view to its specific effect. From watching the progress of many cases, and from the analogy of the symptoms produced by mercurialization, with those in which the guttural and aural mucous membrane is effected by influenza, dyspepsia, and the exanthemata, I believe mercury, as in these cases, injures the sense of hearing through the medium of the mucous surfaces. Long after the salivary glands have ceased to be affected, an erythematic state of the throat and fauces remains, often by its persistence affecting the Eustachian tube and tympanum, in the manner I have described when chronic catarrh has been the exciting cause. It may be argued, that when deafness follows a mercurial course directed against syphilis, the syphilitic disorder is quite as likely as salivation to be the cause of deafness. Syphilis may, in some cases, be the chief agent in producing deafness, but I believe the great anti-syphilitic, given in excess, to be ten times more prejudicial; because I have seen so many instances where this medicine was introduced under other circumstances, and even ill-advisedly as a curative agent in incipient deafness, with the same results. I might multiply cases in which this has happened, and when patients themselves confidently referred the aural malady to this cause. One case, of a very decided nature, I recently attended, in a patient who was recommended by Sir Benjamin Brodie to consult a gentleman celebrated for his treatment of a local disease, from which he suffered, and which was cured by a mercurial course, but at the expense of producing deafness, which is now altogether irremediable.

Among the immediate causes of deaf-

ness, complicated with, or proceeding from, disease of the guttural mucous membrane, morbid growths of the tonsils demand considerable attention; because, although not invariably productive of impaired hearing, they prove so, I am convinced, in a larger proportion of cases than has ever yet been supposed. I would premise, that while directing attention to these enlargements, I propose to limit myself as much as possible to their consideration in relation to the subject of deafness.

The chronic disease of the tonsils usually met with cannot be termed hypertrophy, inasmuch as the augmented size does not consist of the proper glandular substance (these glands being little more than a follicular arrangement of mucous membrane), but of deposits of fibrine, which become organized, though only to a limited extent, as regards the endowment of vessels and nerves.

The tumors are of indolent growth, and from their low degree of vitality would often escape notice but for the train of evils they not unusually excite, especially when their size becomes considerable. If felt by the finger, they are frequently hard and scabrous; but, in many instances, induration is altogether absent; the diseased part being so soft as to break repeatedly if laid hold of by a pair of forceps. In others, the mucous cells, on the surface of the tonsils are enlarged; and when such is the case, there is a copious secretion of viscid phlegm: more rarely they become filled with solid matter of a dirty-white colour, which, from its calcareous appearance, I have thought similar to the tartar deposited on the teeth, probably originating in the same way as the crusta petrosa from the salivary and other secretions of the mouth. Calcareous deposits I have, in three or four instances, found imbedded in the centre of the excised growth. In the case of a young lady, the daughter of a surgeon at Woolwich, the morbid tonsil contained a calculus exactly resembling in arrangement a piece of rock coral.

On looking into the mouth of a person suffering from such morbid growths, they are seen as tumors on each side of the fauces protruding from between the palatine arches; and if drawn towards the mesian line, by a tenaculum, are of much greater size than their first appearance from the mouth would

indicate. The symptoms are deafness, thickness of speech, or difficult deglutition, according to the position of the morbid growth.

The enlargement which is most apt to produce deafness frequently does not project sufficiently from between the pillars of the fauces to be perceived on looking into the throat; it being hidden conjointly by the anterior pillar and soft palate. Thus it is that the surgeon, as I have verified in many instances, has been deceived; for the condition of the parts is rarely examined *with the finger*, which should invariably be done. Were we to do so, we would not unfrequently detect the enlarged tonsil stealing upwards, and encroaching on the mouths of the Eustachian passages.

The enlargement which is productive of thickened speech, on the contrary, strikes the eye immediately the mouth is opened, and extends downwards in a direction opposite to that which is calculated to produce deafness. If the upper margin of the morbid growth be defined to the eye, thick speech only is the result; but if the growth ascend, so as to interfere with the movements of the uvula and soft palate, then we may have, associated with the thickened speech, *nasal speech*. The enlarged tonsil, which interferes with swallowing, is that which projects into the pharynx, almost or entirely meeting its fellow; and each is generally attached to its site by a narrow base. I have removed several such enlargements from persons who complained that they had never been able to swallow their food until they had two or three times returned it to the mouth to be re-masticated: such persons are twice as long at their meals as those about them.

In those cases where the enlarged glands have an extended base, reaching from the vicinity of the Eustachian tubes to the bottom of the pharynx, and such cases I have frequently seen, we may look for defective speech, hearing, and breathing, altogether associated, more particularly if the uvula enters into the diseased condition of the parts.

With such a state of the throat, on getting up in the morning the sensations are most disagreeable. The vitiated mucus collected during the night, and adhering to the throat, produces nausea, or even vomiting, for some time,

till the tenacious phlegm can be expelled by hawking or coughing. A patient in this state is often an hour or two after rising before he gains his equilibrium, and becomes fit for the duties of the day.

The deposition of coagulable lymph, and increase of size, may arise from any cause capable of keeping up a certain degree of irritation about the throat. The effect of cold on the fauces and nasal mucous membrane is frequently productive of such a state; but I should say, that the exanthemata are the most frequent causes of morbid states of the tonsils. Both the commencement and termination of these disorders are attended by a train of throat symptoms, which often occasion, as their reliquiae, these disagreeable growths. Children of strumous constitution are exceedingly liable to tumefied states of the throat. When glandular swellings in the neck are observed externally, a careful examination would seldom fail to discover enlargement of the tonsils. This diseased condition doubtlessly depends, in the first instance, on the constitutional fault which develops the whole strumous disease; but when formed, it proves a not unimportant source of irritation, which, together with the increased and morbid secretion passing into the stomach, reacts on the system, and aggravates the general scrofulous disorder as much, or even more, than the glandular disease. In tonsillary swellings, arising in the strumous diathesis, the associated disorder of the mucous membrane generally extends to the mouth and nose, and becomes evident in the tumefied appearance of the lips and nostrils; so much so, that I am often enabled by this sign alone to predict the state of the throat and tonsils.

Early childhood is the period in which the mucous membrane of the throat and tonsils is most prone to disease. The development and functions of the lymphatic system are then in the state of the greatest activity. It is then also that scrofulous disease generally manifests itself, and when catarrhal complaints are most common. Children of lymphatic temperament and fair complexion are most often affected with tonsillary disease as the sequel of colds. It would seem as though, when the skin is of fine and

delicate organization, the mucous membranes are possessed of more than their wonted susceptibility.

The unequal calibre of the throat in different individuals explains how it is that persons may have very enlarged tonsils without suffering any inconvenience. In some the calibre is so small, that the slightest obstruction is felt to interfere; while in others it is so large, that morbid growths of considerable size may exist without any perceptible effect, further than an increased liability to catarrh and sore throat. As a case in point, I may mention, that a medical friend of mine has tonsils of an enormous size, hanging out into the throat, without suffering any perceptible annoyance, save great susceptibility to sore throat. Deleau also relates a case in which they were of such magnitude as to threaten suffocation, notwithstanding which the sense of hearing was perfect. The reason is obvious in such a case: the direction taken by the tumors prevented them from interfering with the integrity of the Eustachian tubes.

Frequently, when the tonsillary growths are not so large as to interfere materially with the freedom of the Eustachian tubes, their diseased state excites a morbid secretion of mucus, both in the tube and tympanum, which, of necessity, obstructs the hearing. In this state, catheterism and the air-douche will effect a temporary restoration; but as the centre of disease remains untouched, the deafness is speedily re-established. That there is this increased secretion within the ear, is capable of proof, as I have said, by the use of the air-douche. As in the case where increased secretion in the ear is excited by chronic irritation of the throat, without enlargement of the tonsils, the lining of the Eustachian tubes and middle ear become thickened, producing permanent loss of hearing; while the membrana tympani generally becomes hard and insensible, and the external meatus dry and void of healthy ceruminous secretion.

In old age, when absorption is much more active than the deposition of new matter, enlarged tonsils invariably disappear. I have never seen a case where the enlargement remained, or at least was very remarkable, after the fiftieth year; but, unfortunately, the loss of

the morbid growth, as age advances, does nothing towards the restoration of hearing, when this sense has been impaired by the long existence of the evil. In nine cases out of ten, ulterior changes have been produced in the parts more immediately concerned in the auditory function, which do not easily, if at all, admit of remedial measures.

I trust I shall be excused for any seeming prolixity in dealing with this branch of my subject; I have been purposely diffuse, because I am persuaded that medical men do not sufficiently appreciate the connection which exists between diseased states of the throat, and the production of aural disease.

Having now explained my views of the manner in which deafness occurs, through the intervention of the mucous membrane, when they are brought within the influence of certain causes, I will endeavour, from this point, to glance briefly at all the most important forms of ear disease (as they are spoken of by authors), for the purpose of showing how many of them may be referred to morbid states of the mucous surface as the chief exciting cause.

Acute and chronic otitis.—In these diseases the mucous membrane is the first tissue affected, though the continuance of the disease, in either form, often leads to disease of other structures, especially the osseous and muscular contents of the *cavitas tympani*. Suppuration of the ear, through the *membrana tympani*, may justly be regarded as the termination of inflammation of the membrane: the tumefaction of the membrane closing the minute opening of the tympanic extremity of the Eustachian tube, and the pressure excited by the closed cavity upon the inflamed membrane, occasions pain, resembling that which happens when the pulp of a tooth inflames within its osseous envelope. In the chronic form of disease the same thing happens, but in a less marked degree.

Internal and external otorrhœa.—In the first, the discharge coming from the cavity of the tympanum, with loss of continuity in the *membrana tympani*; in the second, the discharge being secreted in the external meatus alone. Internal otorrhœa is always the result of inflammation of the mucous membrane or otitis, and generally comes on

in consequence of irritation of the membrane within the tympanum. Sometimes it occurs in cases where there is no sign of disorder on the internal side of the drum, appearing *per se* from the lining of the meatus; but even granting this to occur oftener than I believe to be the case, I consider the pathological characters of disease of the lining of the meatus to be altogether different from those of the skin, and closely resembling, in this respect, mucous membrane. The cuticular lining, as it is termed, and the sebaceous follicles, which secrete an unctuous matter in sufficient quantity to keep the canal and external surface of the *memb. tympani* in a moist state, in the progress of otorrhœa gradually pass from the natural secretion to the copious discharge of mucus, or even pus, without the intervention of suppuration—circumstances which never occur in the common integument. Moreover, when this has established itself, the secreting surface has the closest similarity to mucous membrane.

Obstruction of the Eustachian tube.—It is scarcely necessary to say this state is caused by thickening, increased secretion, or adhesions of the mucous membrane, in all cases where the occlusion is not caused by mechanical pressure, as from nasal polypi, or enlarged tonsils.

Polypous growths in the cavity of the tympanum, or external meatus.—When these arise, it is invariably after the existence of disease of the lining membrane, with discharge.

The forms of ear-disease I have enumerated far outnumber all others in the frequency of their occurrence. There only remain diseases of the auricle and labyrinth, nervous deafness, and deafness from accidents, such as blows, and the introduction of foreign bodies into the external meatus. Of these, diseases of the labyrinth are very infrequent; and I have already shown that the term nervous deafness is only appropriate when there is paralysis of the auditory nerve; so that it does not at all apply to the great majority of the cases to which it is given. Disease of the auricle also seldom exists, except as an extension of disorder from the meatus in cases of otorrhœa.

[To be continued.]

ON
INJURIES OF THE SPINE*.

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(For the Medical Gazette.)

NEXT to the injuries of the head, those of the spine are most important, and demand our particular attention. The spinal column, equally with the vault of the cranium, which protects the brain—the grand nervous centre, protects the medulla spinalis—the grand nervous trunk issuing from the brain.

The accidents of the spine may be divided into three classes—concussion, fracture, and dislocation. I shall at present treat of concussion of the spine, which is the most frequent accident, less force being required to produce it. It may be caused not only from a blow being received upon it, but also from a distant shock, such as jumping from a great height, and falling upon the feet. In this manner a *contre-coup* or shock is given to some part of the spinal column, and concussion is the result. I myself remember seeing a man, who was cleaning the windows of an opposite house, lose his balance. He made a jump, and came upon his feet. He was taken up, and on examining him I found he had fractured his spine between the tenth and eleventh dorsal vertebræ. As he was treated in this infirmary, I shall speak of his case more particularly at a future period. Besides this, I have met with several other instances where concussion has been produced in this way. Concussion of the spine, however, is more frequently caused from a blow on the back, such as a fall upon it from a horse, a scaffold, or any high place. Old buildings also may fall, and strike the spine; a horse may kick it; or, as in one instance which I know of, the roof of a cavern fell upon the back, and gave rise to this accident.

When concussion of the spine has occurred, and is complete, all the parts below the injury, and the muscles which are supplied by nerves arising from that portion of the medulla spinalis, are perfectly paralysed. The bladder is unable to expel its contents; and either the rectum cannot discharge its

fæces, or there is, which is most frequently the case, an involuntary expulsion of them. The paralysed limbs likewise lose all sensation; so that they may be pinched, incised, or even burnt, without the patient having the slightest consciousness of it. When, however, the concussion is not complete, the paralysis is imperfect. The sensation of the limbs may remain, and yet they may have lost all power of motion; and, on the contrary, motion may be active whilst sensation may be entirely lost. This loss of power may also vary: it may equally affect both limbs: there may be imperfect motion and sensation at the same time; or only one limb may suffer the loss of either of them, whilst the other may remain perfect.

Although, in concussion of the spine, the inferior extremities of the body are usually paralysed only, yet it sometimes happens that the superior parts suffer more or less from it, although the blow may have been inflicted on the vertebral column beneath that portion of the medulla from whence they receive their supply of nerves. Thus, for instance, the middle of the back may have been struck, and yet the nerves supplying the upper extremities, as well as those supplying the lower limbs, may lose their power. Such cases are not uncommon. The following is one which occurs to my recollection. A man received a violent kick from a horse on the most projecting point of the dorsal vertebræ. He instantly became paralysed in the lower extremities, and the arms likewise lost all power of motion, and partially that of sensation. Here the blow was received below where the nerves arise which supply the arms, and thus the superior extremities became paralysed rather from the general shock than from any injury done to the medulla immediately at the part. When, however, the upper extremities are influenced by the shock, they generally suffer in a much less degree than the lower, only perhaps partially losing their motion or sensation; and this may occur in one or in both at the same time: they usually also recover their powers much more quickly.

When a blow has been received on the spine, it does not always follow that all the parts below shall become paralysed. Sometimes only the muscles suffer which are supplied by nerves

* Being the substance of a lecture delivered at the St. Marylebone Infirmary.

from the injured part, as was the case in the following instance. A pack of goods fell upon a man, who was brought to St. Bartholomew's Hospital, which had struck him between the scapulæ, at about the seventh cervical and first and second dorsal vertebræ. The arms became immediately and totally paralysed, and there was a partial loss of power in the muscles of respiration. Neither the inferior extremities nor the rectum were in the least degree affected. It is probable, in this case, that the origins only of the nerves which supplied the arms were injured.

I have at this present time a patient in my private practice under my care, who was thrown from his horse about four or five years ago. He partially lost the power of motion in the right leg, so that he has ever since that time remained very lame; but he has perfect feeling in the limb.

The various symptoms just related are certainly very extraordinary; and had it not been for the discoveries of modern physiologists, they could not have been accounted for; and even as it is, some of them are involved in great obscurity. For example, how can we, for certain, explain why in one case the arms should be paralysed; in another only the bladder and rectum, and one leg partially; and in a third, that the parts above the place where the blow was received should suffer as well as those below? Such phenomena cannot be satisfactorily accounted for in the present state of our knowledge of the anatomy of the medulla spinalis; and the only attempt we can offer of elucidation is, that the origins of those nerves, or that particular part of the substance of the medulla with which they are connected, supplying the parts affected, have more particularly suffered.

Much light, however, has been thrown upon some of the symptoms of injury of the spine by the discoveries of Sir Charles Bell and M. Magendie. They have indisputably proved that the anterior and posterior spinal nerves possess two different functions—the anterior that of motion, the posterior that of sensation. Sir Charles Bell was the first who pointed out these important facts, whilst M. Magendie appears to have confirmed them. By the experiments they have made it is shown, that if the anterior roots of the nerves of the

spinal cord be divided, the power of motion of the muscles which they supply is entirely lost; and if the posterior roots be severed, the sense of feeling no longer remains. These facts will at once explain many of the symptoms which are met with in injuries of the spine, which before could not be understood. For instance, if the limbs should lose the power of motion, we know that that part of the spinal marrow is most injured from whence the nerves of motion spring; and, *vice versâ*, should sensation be lost, the posterior part of the cord is the chief seat of the mischief.

There are, however, some effects produced on the muscular system from an injury of the spine, which we cannot even yet explain. As I said before, a blow may be received on the dorsal vertebræ in the centre of the back, and although the nerves which supply the arms are given off considerably above the injured part, yet the muscles of the arms will be paralysed. By what law, or by what lesion of the chord this is effected, it is impossible to say. It would appear that pressure, to a lesser or greater extent, on the motor or sensitive tract of the medulla spinalis, would, by a reflex action, produce this effect. I am led to think so from the following cases, the first of which Sir Benjamin Brodie did me the honour to quote from a work of mine already published.

CASE I.—“Oct. 1831. About eight years from the above date, a man belonging to the town of Penkridge, Staffordshire, fell from the top of a waggon load of hay. He was taken up in a perfectly helpless state, and was immediately carried to bed. He had struck his back upon the second, third, and fourth lumbar vertebræ, which were considerably displaced laterally; the body leaning to the right side, leaving but little doubt that the spine at that part had suffered fracture. He was perfectly paralysed below the injury; the fæces escaped involuntarily, and the bladder could not expel its contents. The arms likewise were paralysed partially, in both the powers of feeling and motion. The treatment of the case I am unacquainted with; but he has kept his bed ever since, and his present state is as follows:—The muscles of the right arm are so contracted that it is closely fixed to the

side; the forearm, from the same cause, rests upon the humeral part; the wrist is bent upon the forearm, and the fingers are firmly clenched in the palm of the hand. The sense of feeling also is partially lost. The left arm is affected in the same manner, but not to so great a degree. The right leg has the power of motion and feeling; the left leg has the power of feeling, but not that of motion. The sphincter muscle of the rectum remains paralysed, the fæces escaping involuntarily; and the bladder only expelling half its contents.

Hence it may be observed, the injury was received on the lumbar vertebræ, and yet the nerves supplying the upper extremities were influenced by it. From the great displacement of the vertebræ there is but little doubt in my mind that the canal was narrowed at the part, and that pressure was made upon the spinal cord; and from the complete contraction of the muscles of the arms, more particularly on the motor tract.

I shall now relate another case, at present in the Infirmary, which leads me to think that pressure on the cord must be the cause when a blow is received below, and affects the parts above where the injury was received upon the spine, of the diminution of power, or complete paralysis of the muscles of that part.

CASE II. — John Butler, ætat. 11, jumped out of a window six years ago, and struck his back on the lumbar region. Ever since this time he has been in a state of opisthotonos, but with no trismus. The back is curved posteriorly like a bow, and the legs and heels, when in a quiescent state, and when he is asleep, are drawn back towards the nates. His head and neck are also drawn back in the same manner; and when in bed he is curled backwards, and remains fixed in that position. When awake he has the use of his arms, and can dress himself, and do other things; but the limbs are in constant motion, being drawn convulsively, like chorea, backwards. He can, being in an opisthotonic state, place himself in the erect position, standing on his toes, but is obliged to rest his forehead against the wall for support; and when he sits, the back of his head. He has a certain movement of his lower extremities, inasmuch that he can run on his toes by the side of a wall; every now and then touching

it, or resting against it with his hands, for support, and to prevent his falling; going along in a most curious and plunging manner. His usual position, when up, is on his hands and knees. All his limbs are in constant motion. His head is turned upwards, and he kicks his heels in the air.

Altogether the case is so curious that it is indescribable. The injury is in the lumbar region, and there is some displacement of the two first lumbar vertebræ. I confess I cannot account for these extraordinary movements. I am of opinion, however, that there is some pressure on the motor tract of the cord. Dr Marshall Hall's papers on the Nervous System, in the Royal Medical and Chirurgical Transactions, may perhaps throw some light on this subject.

[To be continued.]

SUGGESTIONS ON A NEW METHOD OF TREATING ANEURISMS.

To the Editor of the Medical Gazette.

SIR,

IN laying before your readers the following suggestions on a new method of treating aneurism, I am aware that I may be charged with touching on a subject which, of all others in the field of surgery, may be considered as the least open to improvement. The important triumphs that have been achieved in this branch of our profession since the discovery of Hunter, leave apparently but little to desire in the treatment of a class of diseases which formerly presented so sad an obstacle to the efforts of our art. It is now but rarely that patients are the victims of this disease. The ease and safety with which even the more important arteries can be tied, being such as almost to preclude the hope of introducing any improvement in so simple an operation. Cases, however, occasionally occur in which the patient is doomed to die on account of the part not being accessible to the knife of the surgeon, and in which even the method of Masdor ceases to be applicable. It was in thinking over the difficulties that surround the treatment of such cases that the idea first struck me, that it might be possible to obtain the obliteration of the sac by introducing a needle into it, and breaking up the

coagulum that usually lines its surface, in the view of thus obtaining a plug that shall stop up the further opening of the sac, and, by arresting the passage of the blood through the diseased vessel, shall lead to its obliteration. It is evident that the fibrinous deposit which forms in the aneurismal sac is of a texture which admits of its being easily broken up; and when loosened, it must immediately be carried off by the blood to that part from whence this fluid makes its exit, or to the mouth of the vessel leading from the sac. Should the portion broken off be so large as not readily to pass into the vessel, it would become fixed at its orifice, and thus form a partial plug on which other portions of fibrin would place themselves, until the discharging orifice of the aneurismal sac was blocked up. The passage of the blood through the tumor being once arrested, there can be no doubt but that its cavity would soon become obliterated. Should this happy result occur, it would have been obtained at the expense of a mere puncture of the tumor, an operation which experience tells us is not likely to be followed by any serious result. By employing a needle, the point of which would be covered after it had been introduced, we should, I think, avoid all danger of injuring the lining membrane of the sac. There are, undoubtedly, other objections which may present themselves; such as portions of the fibrinous deposit being forced on into the arteries, the possibility of the fibrin becoming absorbed, &c. But even supposing these objections real, I think cases will occur that might justify the employment of this simple plan, although it be tried with but slight hopes of success.

These remarks have been put forward merely with the view of attracting the attention of the profession to the subject: trusting that they may call forth observations from those of your contributors who are more capable of judging if the proposed operation is likely to be an improvement in our present practice, I remain, sir,

Your obedient servant,

JAMES BLAKE, M.R.C.S.

7, Cork Street, Burlington Gardens,
Dec. 19, 1841.

VARIOUS SURGICAL CASES.

To the Editor of the Medical Gazette.

SIR,

IF you deem the subjoined cases in surgery of sufficient interest, their insertion in your journal will oblige,—sir,
Your obedient servant,

GEORGE MAY,

Surgeon to the Royal Berks Hospital.

Reading, Dec. 17, 1841.

Contraction of ham-string muscles; division of tendons.

Martha Candy, aged 29, admitted into the Royal Berks Hospital, March 16, 1841. States that about twelve months since she had paralysis of her arms and legs, from which she recovered in St. Bartholomew's Hospital; she has been since, and is now, in good health. Both legs are flexed at right angles with the thighs, and the slightest attempt to extend them gives pain: the joints are not otherwise affected.

April 16.—The tendons of the biceps, semi-tendinosus, and semi-membranosus muscles, of each leg, were divided in succession: no inconvenience resulted: the punctures were healed on the third day, and extension commenced.

She is now recovered, and can walk without crutch or stick, and with only a slight limping gait.

She is desired to use the straight splints at night for some time to come. (See Cases by Mr. Coulson, MED. GAZETTE, Nov. 12, 1841; also by Mr. Childs, Dec. 10, 1841).

Division of tendon of the biceps femoris.

Henry Welch, aged 16, groom, admitted into hospital, Nov. 12, 1840. His right knee projects so much inwards that he is not able to step on the sole of the foot without great effort and inconvenience; it has been gradually getting worse during the last six months, and disables him from work; he does not know the cause; is in good health; there is no other affection of the joint; the biceps is contracted, and very tense.

17th.—The tendon of the biceps was divided; a straight splint was applied to the outer side of the thigh and leg on the 19th, and gradually bound more tightly.

Dec. 7th. — Discharged; being desired to use a knee-cap by day, and the splint at night, for several months.

Dec. 6th, 1841.—He presented himself at the hospital to-day: the knee is not at all incurved, and is as strong as its fellow.

Division of Biceps.

Eliza Childs, aged $2\frac{1}{2}$, admitted into hospital, Feb. 2, 1841. The left knee is incurved so much as to impede her walking: she is in good health.

5th.—The tendon of the biceps was divided; and extension, by a splint on the outer side, commenced on the third day. An apparatus was constructed, having a hinge on the inner side of the knee, which substitutes the splint, and admits of motion of the joint, and which she continues to wear. She is now so much improved as to justify the belief of her complete recovery.

Contraction of toe; division of the tendon of the flexor longus digitorum.

John Giles, aged 25, admitted into hospital, Jan. 12, 1841. The second toe of his left foot is so much contracted that in walking he bears on the point of the nail, on which there is a painful corn, and another on the division of the middle joint; he is disabled from work in consequence.

Jan. 14.—The tendon of the flexor longus digitorum was divided, and the toe extended between paste-board splints.

Feb. 1.—Discharged cured, and has continued so; he is desired to keep the toe extended for some months.

These cases support the proof already on record, of the value of tenotomy in properly selected cases. I knew a lady who, some years since, suffered amputation for a similar condition, which nearly cost her life.

Dislocation of the patella outwards—incomplete.

Nov. 1841.—S. —, Esq., aged 46, of lax fibre and nervous temperament, with slightly limping and unsteady gait, but without unnatural inclination of the knees, was descending some steps in haste, and fell.

The limb was extended, attempts to flex it giving great pain; a depression was seen at the inner edge of the articulating surface of the femur, and an unnatural prominence formed by the patella on the external condyle, and beyond its outer edge; the inner edge of the patella was turned back-

wards, the outer edge forwards, the posterior cartilaginous surface faced outwards, and the anterior or subcutaneous surface inwards. He does not know if he struck the knee in falling, there being neither soil of dress nor ecchymosis afterwards; it is presumable to have arisen from muscular motion *only*. The diagnosis was easy, and the reduction not difficult. The limb was raised as high as possible, and the patella pressed outwards so as to lift the inner edge from the groove of the femur.

Dislocation of the patella inwards.

Emma Wells, aged 18, out-patient.

Nov. 15, 1841.—Has the aspect of good health and tone, and is without unnatural inclination of knees.

About three months past, while carrying a bucket of water down stairs, she fell, and striking the outer edge of the right patella, dislocated it inwards. It was reduced spontaneously. It has been out several times since from muscular motion, and occasions her to fall. She wears a knee-cap with comfort and comparative safety. Much discrepancy exists amongst authors, and in the experience of practitioners, as to the frequency of these accidents. Boyer, during a long life, saw only one; Liston has not seen one; whilst Sir A. Cooper and Sir Charles Bell speak of them as not uncommon. (See Cyclop. Anatomy and Physiology—Abnormal anatomy of Knee-joint. Adams.)

Rupture of the Ligament of the Patella, misnamed Dislocation of the Patella, upwards.

September 1st, 1840.—A gentleman, aged about 70, in danger of being thrown out, jumped from his phaeton, and fell. His right limb was disabled; the patella was entire, and drawn up three or four inches, leaving in its normal situation a deep depression, through the integuments of which the interior of the joint could be felt.

The leg was bandaged, the limb placed on an ascending plane, and supported by a long splint behind.

Passive motion, with friction, were commenced cautiously at the end of *two months*. His limb is strong, with scarcely perceptible lameness.

Sir A. Cooper directs motion to be made at the end of a month; the sad result of too early motion in the follow-

ing case of fracture of the patella induced me to extend the period of rest.

Fracture of the Patella, followed by incurable lameness.

Mr. D——y, baker, aged 22, August 16th, 1836, while turning suddenly round, fractured his left patella transversely, but he did not fall or strike it. Supported by a straight splint, and raised on an ascending plane, the leg only being bandaged, it united closely by ligament. Passive motion was cautiously commenced at the end of six weeks.

A fortnight after, impatient for more rapid recovery, he consulted a high authority in London, who advised a more liberal use of the limb. The ligament stretched, and is now three inches in length, entailing incurable lameness. He was continually falling, until he obtained an instrument from Messrs. Sheldrake and Bigg, Leicester Square, from the use of which he derives great comfort and security. From the extensibility of the new structure, and the superior power of the flexors, the evil of premature motion would seem more to be feared than the stiffness incidental to more protracted disuse.

MEDICAL GAZETTE.

Friday, January 7, 1842.

“Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso.”

CICERO

THE REVISED EDINBURGH PHARMACOPŒIA.

AMONG the numerous difficulties with which the compilers of a pharmacopœia have to contend, one of the most obvious is the question of the limits which should define the extent of their work: ought they to lean to French copiousness, or Austrian tenuity? The French Codex might at first sight appear to be extravagantly comprehensive. The tops of cat's mint (*Nepeta cataria*), and the roots of succory, the leaves of sanicle (*Sanicula Europæa*), and the seeds of coffee, are all included in this liberal

list; and among the ninety syrups, we find some prepared with myrtle, ivy, nettles, and calves' lights. But we must observe, that these preparations and substances are not marked with the star, which indicates that they must be kept by every druggist; and if we omit all the starless articles the list will no longer be alarmingly great, though still leaning to the side of copiousness. But *præstat copiâ quam penuriâ premi* is a good rule in these cases; and though there is an obvious inconvenience in overstocking the chemist's shop with more drugs than are likely to be required, it is still worse if the physician is to be checked when prescribing, by a consciousness of the meagreness of the apothecary's stores, as if he were drawing upon a schooner's medicine chest, instead of the rich ἀποθήκη of a capital.

The untravelled Englishman may be surprised to see the leaves of bohea tea honoured with the imperious asterisk in the Parisian Codex; and may ask what are the medicinal powers of a leaf, which has become a necessary of life in England. Experience, however, has taught continental physicians that tea, when not an habitual part of diet, becomes an article of the materia medica, and has sufficiently marked effects. Dr. G. A. Richter reckons tea among ethereal astringents; but considers its powers as weak, and rather fitting it for a domestic remedy than a medicine of decided energy*.

In this country, though tea may sometimes do harm by the activity of the leaf itself, we feel certain that mischief more frequently ensues from the enormous quantity of tepid water which the leaf drafts into the stomach.

As for coffee, though not honoured with the sign of distinction by the French Codex, more is to be said about its therapeutic virtues. There is abun-

* Ausführliche Heilmittellehre. Wien, 1832.

dant evidence in favour of its efficacy in intermittent fever, diarrhœa, atrophy, atony of the *primæ viæ*, and generally in every case where cinchona is indicated. It has been frequently used in cases of narcotic poisoning; and a decoction of raw coffee has been employed in defective digestion, and suppression of the catamenia*.

On the whole, it must be confessed, that the progress of knowledge has diminished the faith of enlightened physicians in the majority of substances formerly supposed to be medicinal. Tea and coffee, snails and frogs, ptisan of tamarinds and syrup of borage, have decayed in their therapeutic reputation. Some of them have, no doubt, a certain medicinal value; while others owed their fame to the *vis medicatrix naturæ*, to the irresistible tendency of many diseases to get well under any indifferent, or only moderately bad treatment. Hence many drugs must be considered as still on their trial; not decidedly condemned, and yet far from presenting unquestionable claims to approbation. At present, in this country, the balance of opinion is rather against these doubtful claimants; so that Mr. Lavement's trick, in Smollett, of substituting oyster shells for crab's eyes, would not be thought of the same importance now as at the time when the novelist wrote.

But while a too great comprehensiveness is a gulph to be avoided on one hand, the rocky barrenness of a pharmacopœia like the Austrian† is to be equally shunned on the other. Though the physicians of Vienna have been far from excluding homely remedies, and have inserted lovage and salep in their *Materia Medica*, they are sadly deficient in Galenical preparations of the most approved fame. They have no pills; only two compound powders (*Pulv. Doveri*, and

Pulv. gummosus), and no preparation of colocynth except a tincture.

One of the most curious articles in the Austrian Pharmacopœia is powdered black-lead (native carburet of iron). Dr. C. J. Meyer, a commentator on the pharmacopœia, says that its effect is not yet satisfactorily made out, but that it appears to act on the secretion of lymph, and metamorphoses of the skin. The Austrian Codex is still in Latin, but the names of the substances in its *materia medica* are also very properly given in German and Italian.

The Pharmacopœia of the Edinburgh College of Physicians, which we had the pleasure of repeatedly praising two years ago, has just reappeared in a new and revised edition. The rapid sale of the former one may partly be attributed to its having been published in English, a circumstance which we mentioned with approbation at the time*. In the case of so important a work as this, we make no apology for noticing in a somewhat minute manner the changes effected in the work by the *curæ secundæ* of the Edinburgh College.

They say in their preface, "we have made some extensive changes, particularly in the formulas for pills and tinctures, by which, although in general little alteration is made in their composition, and scarcely any in their strength, greater facilities will be given in compounding them."

The changes do not seem to us very extensive. Under the head of pills the chief alterations are the addition of oil of peppermint to the formula for the compound rhubarb pill; and the substitution of "parts" for drachms and grains. Thus one part of opium, one of saffron, and two of storax, are directed to be taken, instead of one

* Richter, *op. cit.*

† Pharmacopœia Austriaca. Vindobonæ, 1834.

* MEDICAL GAZETTE, Aug. 3, 1839.

drachm of opium, one of saffron, and two of storax, to form the *Pilulæ Sty-racis*.

A dozen corrections or more have been made in the list of the materia medica, many of them suggested by our distinguished correspondent, Mr. R. Phillips*. The highest specific gravity of British vinegar is now stated to be 1019 instead of 1012. The three kinds of aloes, Barbadoes, Indian, and Socotorine, are more distinctly separated from each other. The last is stated to be "in thin pieces, translucent, and garnet-red; almost entirely soluble in spirit of the strength of sherry. *Very rare*." In the last edition it was said, that one ounce of *Aqua Ammoniac fortior*, with *three* of water, made *Aqua Ammoniac*; the present edition says *two and a half*; Mr. R. Phillips says *two*.

"Who shall decide, when chemists disagree?"

It was formerly given as one of the characters of *Aqua Ammoniac*, that it did not effervesce with nitric acid: *dilute* nitric acid has been now properly substituted; and in like manner *dilute* muriatic acid for muriatic acid, under the head of *Ammoniac Spiritus*. Under the head of elaterium, the edition of 1839 says, that "when exhausted by rectified spirit, the solution concentrated, and poured into hot diluted aqua potassæ, deposits, on cooling, minute, silky, colourless crystals, weighing at least a seventh of the elaterium." The revised edition says, "Weighing from a seventh to a fourth."

Ergot, instead of "an undetermined fungus developed in place of the seed of *Secale cereale*," is now "an undetermined fungus, with degenerated seed of *Secale cereale*."

A syrup of the iodide of iron has been substituted for its solution; and the muriated tincture of iron has been added to the list. The following arti-

cle, which occurs at the end of the materia medica, is also new:—"Canna. Fecula of the root of an imperfectly determined species of canna (*L. W. Spr.*) *Tous-les-mois*." Sulphate of iron was before described as having little or no yellow efflorescence: the word "yellow" is now omitted.

Alas! for the perpetual changes of botanical names. Two years ago, Galbanum was produced by a plant with the fire-new name of *Galbanum officinale*, but now no one will own it; it comes from "an imperfectly ascertained umbelliferous plant, probably a species of *Opidia*."

The decorticated seeds of *Hordeum* are now more accurately called Pearl-barley, instead of barley.

Tragacanth was before said to be derived from *Astragalus verus* and other species; but now from *A. gummifer*, and probably *A. verus*, and other species.

In the formula for making Citric and Tartaric Acid in the former edition, the quantities of sulphuric acid to be used were too small; in the present one this oversight has been corrected. The College, however, have not corrected an error to which we directed their attention on a former occasion*; namely, that of ordering the enemata of opium and tobacco to be made with variable quantities of their respective drugs. The *Enema Tabaci* is still to be made with from fifteen grains to half a drachm of tobacco; and the *Enema Opii* with from half a fluidrachm to one fluidrachm of laudanum. Hence the prescriber, when he puts down *Enema Opii* or *E. Tabaci*, must recollect their respective limits, and declare of what strength he wishes the preparation to be;—pretty much the same as if there was no formula for it in the Pharmacopœia. Surely, it would have been better to insert the weaker

* MEDICAL GAZETTE, Aug. 3, and 17, 1839.

* MEDICAL GAZETTE, Aug. 17, 1839.

formula, and left the prescriber to strengthen it if he chose.

Several alterations have been made in the Tinctures, effecting a still closer approximation between the Pharmacopœiæ of Edinburgh and London. Thus, the formulæ for the tinctures of Assa-fœtida, Cantharides, Castor, and Galls, are now the same on both sides of the Tweed, as far as regards the quantity of the ingredients. This was already the case with many other preparations; so that we may hope the day is not far distant when a single Pharmacopœia will be found sufficient for the British Islands. We thank the College of Physicians of Edinburgh for this revised edition of their excellent Codex, which must be considered another step towards that desirable consummation.

CAUSES OF

DEATH IN ENGLAND AND WALES.

BEING EXTRACTS FROM MR. FARR'S
LETTER TO THE REGISTRAR-
GENERAL.

(Continued from p. 559.)

Suicide.

THE tendency to suicide is least among persons who carry on occupations out of doors; and greatest among artisans who are weakly from birth, are confined in-doors, have their rest disturbed, or have little muscular exercise.

Taking the numbers as they stand, 1 in 9332 masons, carpenters, and butchers committed suicide in the year; and 1 in 669 tailors, shoemakers, and bakers: the tendency to suicide in the first class was as 1·0 to 5·6 in the second. The corrected mortality from suicide was 1·33 to 10,000 in the first class, and 7·43 to 10,000 in the second class. The requisite correction will be made, without further notice, in the subsequent rates. It does not affect the *relative* mortality of different classes.

A similar result is obtained by comparing the suicides in the class of labourers with those among artisans and tradespeople; for the tendency to suicide is twice as great among artisans as it is among labourers.

The proportion of suicides in the miscellaneous class, designated by Mr. Rickman, "*capitalists, bankers, professional, and*

other educated men," is very near the average.

It has been remarked by theoretical writers who appear to have had this class principally in view, that suicide is most prevalent in countries where the greatest number of people are educated; and M. Broué, after an elaborate inquiry, lays it down as a "social law," that suicide is most common where education is the most diffused; that suicides and scholars increase in the same ratio. Modern education and literature, it is said, have led to an increase in the number of suicides. In England suicide is, in fact, most frequent in the metropolis, and the south-eastern counties, and the northern counties, where the greatest number can write; and it is the least frequent in Wales. The intermediate counties range from 62 to 48, who could write, in 100; the suicides, from 4·5 to 6·8 in 100,000.

There is a general but no constant relation between the state of education thus tested, and the commission of suicide. It may be admitted that there is some relation between the development of the intellect and self-destruction; but the connexion must be in a great measure indirect and accidental. In opposition to the arguments derived from agricultural districts, and labourers in towns, there is the fact that suicide is more frequent among several classes of artisans, than it is among better educated people. If the progress of civilization is to be charged with increase of suicide, we must therefore understand by it the increase of tailors, shoemakers, the small trades, the mechanical occupations, and the incidental evils to which they are exposed, rather than the advancement of truth, science, literature, and the fine arts.

A comparison of the suicides among servants and the preceding class would throw some light on the influence of mental cultivation. But servants, comprising coachmen, cannot be distinguished from street coach-drivers in the registers,—so that the two classes must be referred to one head; standing in point of education, however, nearly on a level.

In corroboration of this result, it may be stated that about 2·0 in 10,000 persons assured in the Equitable Society, and 7·8 in 10,000 Dragoons and Dragoon Guards, have been ascertained to commit suicide every year.

Of 26,665 paupers and others not included in the previous classes, 9 committed suicide, or with the correction, 4 in 10,000. It does not appear from the registers, that either poverty or riches have any great disturbing influence on the tendency to suicide. The influences of their attendant evils are nearly equal. The poor man has an aver-

age standard of enjoyment which he can scarcely fall below, and is less exposed to cruel reverses than the affluent; who are, on the other hand, assured by the abundance of their resources against the frequent fluctuations in the supply of the primary necessities of life.

Intemperance and suicide, as well as other violent deaths, are found associated in the registers; and the professions peculiarly addicted to drunkenness have more than the due proportion of suicides. Drunkenness leads to this; but drunkenness is a sort of indirect suicide, and both are tendencies of the mind, indulged often from the same motives, and promoted by similar causes; for in drunkenness the wretched find not only the gratification of an appetite, but the suspension of natural consciousness—in death they seek its cessation.

There is no reason to believe that suicide has been latterly increasing in England. The fact, nevertheless, that 1000 persons are ascertained to commit suicide yearly, and that nearly as many more are returned as drowned, &c. in which the verdicts do not state whether death was accidental or suicidal, is sufficient to arrest attention on all the relations of the question.

Some plan for discontinuing, by common consent, the detailed, dramatic tales of suicide, murder, and bloodshed, in the newspapers, is well worthy the attention of their editors. No fact is better established in science than that suicide (and murder may perhaps be added) is often committed from imitation. A single paragraph may suggest suicide to twenty persons; some particular, chance, but apt expression, seizes the imagination, and the disposition to repeat the act, in a moment of morbid excitement, proves irresistible. Do the advantages of publicity counterbalance the evils attendant on one such death? Why should cases of suicide be recorded at length in the public papers, any more than cases of fever? It would be out of place to refer here to the moral or strictly medical treatment; but it may be remarked, that the artisans most prone to suicide are subject to peculiar visceral congestions—that suicide is most common in unhealthy towns—and that the influence of medicine on the mind, and on the unstable ungovernable impulses which are often the harbingers of suicide—is incontestible. To place the shoemaker, tailor, baker, or printer, in the same favourable circumstances with respect to air and exercise as carpenters and masons, would be impossible. But the workshops of all artisans admit of immense improvements in ventilation. Cleanliness is greatly neglected. Neither the men nor all the masters appear to be aware that the respiration of pure air

is indispensable; that the body requires as much especial care as the tools, instruments, and machines; and that without it, neither the body nor the mind can be preserved in health and vigour. The new parks and public walks will afford the artisan an opportunity of refreshing his exhausted limbs and respiring in the fresh air; and the health and temper of the sedentary workman may be much ameliorated by affording facilities in towns for athletic exercise and simple games out of doors, which, while they bring the muscles into play, unbend, excite, and exhilarate the mind. Moral causes, and the regulation of the mind, have perhaps more influence on the educated classes; but all must derive benefit from out-door exercise.

The mortality of males aged 20 from other violent deaths was 6·77. As a general rule the suicides were most numerous in the trades least exposed to accidents; as if the mind, left unexcited by natural dangers, imagined and created causes of death. Three in 10,000 tailors, bakers, shoe-makers, and 9 in 10,000 masons, carpenters, and butchers, were killed by accidents or violence—the reverse of the proportions in suicide. The degrees of danger which beset the different classes of the community in their occupations is shewn by the following facts:

86 sailors, watermen, or fishermen, died violent deaths. As the number of seamen cannot be ascertained until the returns of the Census are made up, the mortality by violence among them cannot be calculated. It was undoubtedly higher than in any of the preceding classes. The occupation of engineer is at present the most dangerous followed; 21 engineers, stokers, and firemen, were killed in one year in the metropolis, and that chiefly in the steam vessels on the Thames.

Violent deaths may be considered under three points of view:—1st, With relation to the injury, which is the proximate cause of death; 2d, The agents by which the injury is inflicted; 3d, The circumstances which led to the death.

The violent deaths of men whose occupations are carried on above the level of the earth are most generally the effect of falls*. Thus in the metropolis, 15 of 19 violent deaths among masons, plasterers, and slaters; 6 in 11 carpenters; 2 in 2 deaths of painters and glaziers, were killed by falls; also 9 in 14 servants. Of 8 violent deaths among coachmen and postboys, 6 were from falls. Of 100 labourers, 22 died by falls, 18 by drowning, 12 by being run over, and 22 by

* The facts in this section are principally derived from the observations in the metropolis, referred to previously for other purposes.

being crushed. Miners and persons who work much below the level of the earth, are liable to be killed by the fall of heavy substances; 118 in 870 violent deaths which occurred in the mining districts, were caused in this way. Miners are sometimes killed by falling into the pits; 12 were killed in a coal-pit at Clutton, the rope having been intentionally cut. Of 47 violent deaths among sailors and watermen, 7 were by falls, and 33 by drowning; the latter being of course almost always the result of falls into the water. Burns, from their clothes taking fire, are the most common causes of violent deaths in females; 77 males and 159 females (two-fifths of the females who died by violence), died of burns in the metropolis.

Drowning is probably the most common mode of death in suicide; but the inquests in the metropolis left it undetermined whether the drowning was voluntary in 191 cases. 21 males, and 8 females, were stated to have committed suicide by drowning; 67 males, and 24 females, by hanging; 28 males, and 17 females, by poisoning; 6 males, and 4 females, by throwing themselves from windows, and heights; 42 males, and 5 females, by wounds; 10 males, and no females, by gun-shot wounds. Of 3,146 cases of violent death, 2,371 were pronounced accidental; 388 were ascribed to human agency; and, in 387 cases, the verdicts did not state whether the death was the result of suicide, accident, or murder.

It has already been seen that violent deaths are least common in the agricultural districts, more frequent in cities and manufacturing places, and most fatal in the mining parts of the country.

Relatively to the population of England, few countries have such an extent of coast, rivers, and canals, or so many men employed in navigation; so many fires, furnaces, and chemical processes in operation; medicines and poisons distributed in so many shops; so many mines, manufactures, or buildings; so many horses, carriages, and railways; such a vast amount of force and power of every description at its disposal. The great number of violent deaths in England may, therefore, be accounted for on the assumption that the danger in the manufactures, mines, and conveyances, is the same as in other countries; but that the frequency of exposure to it is greater.

It must not, nevertheless, be imagined that the number of "accidental" deaths, injuries, and mutilations, cannot be reduced in England. Deaths in ships, manufactures, and mines, are indiscriminately called "accidental;" yet it is well known that fewer lives are lost by shipwreck in Her Majesty's service than in emigrant vessels; that less accidents happen in one factory than in

another; and that the men are crushed, burnt, or blown to pieces, much less frequently in the coal-mines of certain proprietors, than in those of others. Many "accidental deaths" are, therefore, indirectly caused by human agency. Many of the accidents happen from ignorance and carelessness. The knowledge of the accidents to which people are exposed in different occupations may put them on their guard against danger. Men who work at a considerable elevation from the earth will learn caution from the number of deaths by falls, and will, perhaps, indulge less in intoxicating drinks (which are the cause of so many accidents), or in anything that makes the step or head unsteady. In the metropolis, in two years 142 males, and 285 females, died by burns! This is to be ascribed to the greater combustibility of the dresses of females: their caps and gowns frequently take fire. Many children are burnt from the same cause. It deserves the consideration of manufacturers whether cotton and linen may not be made, by a chemical solution, as little liable to take fire as textures of wool. It may render parents and servants more careful, to state that many children, under five years of age, are suffocated by drinking boiling water out of the tea-kettle—are burnt to death—or disfigured for life—from being left alone at the fire, without a guard; and that many children are poisoned by drinking medicines, or drugs, left within their reach. 500 or 600 persons are ascertained to die by poison every year in England; besides the cases of poisoning which are never detected. These are not like the other violent deaths. The poisons are of very little use except in the hands of medical men; and may, without any disadvantage, be placed beyond the reach of the majority of persons by whom they are employed for self-destruction, or murder. Arsenic, mixed with food, cannot be tasted, and is fatal in very small quantities; yet it is obtained with almost as much facility as sugar, by servant-girls, in the small chemists' shops. About 100 fatal cases of poisoning, by arsenic, are detected every year. It is generally asked for "to kill rats;" but it is questionable whether arsenic kills more rats than human beings; and, if the destruction of rats is a matter of so much importance, it may be effected in other ways. The suicide, or murderer, would, it is true, often resort to other means, if poison were inaccessible; but he would not always do so; and many of the "accidental deaths," which now occur from taking poison by mistake, would be prevented. The taste of opium cannot easily be disguised; hence it is less used by the murderer than the suicide. Small quantities of opium are fatal to infants; and mothers, and nurses,

frequently give children over-doses of laudanum, or elixer, and quack medicines, in which it is mixed up in uncertain quantities. It is admitted by those who have paid most attention to this subject, that the system of pharmacy in England, and the sale of poisons, requires revision. The sale of prussic acid, opium, nux vomica, oxalic acid, corrosive sublimate, and arsenic, to the public, may be prohibited, or be permitted only by medical prescription. The master's certificate may be required for sugar of lead, and poisonous substances employed in the arts and manufactures.

FOTHERGILLIAN MEDAL.

To the Editor of the Medical Gazette.

SIR,

ALLOW me to thank you for your politeness in publishing in the GAZETTE for Oct. 1, the correspondence which had passed between the Secretary of the London Medical Society and myself, with the remarks thereon, in reference to the very unusual proceedings of the Council of the Society in the adjudication of the Fothergillian medal for the present year. It was there shewn that the Council had not only departed from the regulations of the founder of the medal, but had introduced uncommon and absurd (because it is altogether impossible to ascertain if fulfilled) conditions, which were known only to themselves; and that even by them the regulation was so little known, or so totally disregarded, that the essays were sent to many distant parts of London, subjected to much rough usage and handling in the examination of them; that one of them, entitled "An Essay on the Nature, Causes, and Treatment of Erysipelas," since published, was considered worthy of the prize, yet the author was informed that because he had not complied with an unusual, inoperative, and unknown regulation, which the examiners themselves did not regard, the medal was not to be given.

My object in first bringing the subject before the profession, and in again alluding to it, is not to obtain reparation for the past, because I know human nature too well to suppose any body of men, whatever as individuals they might do, will readily confess themselves in error, but to prevent a recurrence of such proceedings, which I cannot but regard as certain to defeat the object of the founder, and to lessen, not only the dignity of the Medical Society itself, but to cast a slur upon the profession. Who would think of entering the lists unless all be open and understood? In order to obtain worthy competitors on any subject, or for

any useful purpose, it is a necessary and indispensable preliminary that there should be nothing like concealment in the conditions required, or irregularity in the adjudication; if there be, as an inevitable consequence, honourable competitors will be wanting, or distrust and suspicion of unfair play will ensue. I therefore regard it as incumbent upon the Council of the Medical Society, or, this failing, upon the members, to see that if their rules are not made conformable to usage, or to those of other societies (the College of Surgeons for instance) at least it is imperative, when a subject for competition is announced, the requirements to be observed are as distinctly and widely stated. I am glad to observe, that in giving the subject for the prize of 1843 this has not been altogether overlooked; although the secretary, in answer to my complaint, said it *could not be done*; but, if I mistake not, the profession will require some guarantee, in the shape of a standing rule, for the due and uniform compliance with such a common-sense demand. So that in future, in the adjudication of a medal which bears the honoured head of Fothergill, it shall not be said, conditions are required from candidates which are not made known to them, and which are so little regarded by the adjudicators themselves, that they do not recollect them until after an essay has been the round of their various residences, and an important officer—the secretary—is so far master of its contents as to be enabled to pronounce an official opinion of its merits, but yet are sufficiently strong to induce the mere form of bestowing the medal not to be indulged in.

It must be borne in mind, that the Fothergillian medal *belongs to the whole profession*; and that the members of it have a right to know the council of the Medical Society, *who are only trustees*, are so bound by laws, which are fully made known, and constantly acted upon, as would satisfy each member of the council individually, or as a competitor. That such salutary regulations should not have been uniformly observed has resulted, I am convinced, from inadvertence alone; but having occurred, it is not, I think, asking too much for a law which shall for the future ensure competitors from a repetition of the injustice which has lately occurred, and which especially shall secure a fulfilment of the founder's just intentions and expectations, viz. such fair and unrestricted competition as cannot fail to aid the advancement of science.—I am, sir,

Your obedient servant,
THOMAS NUNNELEY.

Leeds, December 1841.

PROFESSIONAL ETIQUETTE.

To the Editor of the Medical Gazette.

SIR,

IN the present state of the profession, and when its amelioration is so much a subject of consideration, I deem it due, alike to my professional brethren and myself, to submit the subjoined statement of facts to the readers of your extensively circulated and valuable periodical, and purposely abstain from the expression of any opinion or feeling on the subject, being perfectly satisfied to leave it altogether to the good feeling of yourself and the profession to comment upon its character.

On the 23d December, between the hours of 12 and 1 P.M., I was called upon by a gentleman, who took me in his carriage to visit a lady, who, he said, had fallen and injured her wrist. On making examination, I found fracture of the radius, about the commencement of the lower third. I was preparing to adjust it, when Mr. Nesham, a surgeon of extensive and long-established practice in this town, arrived, and who, at my request, gave me some assistance in bandaging the arm. When we had finished, he said, "Now, Mr. Maughan, I leave this case with you." Upon arriving at the door, on leaving, I asked him if he was the medical attendant of the family; to which he replied, "Oh no; they are quite strangers to me; but as this is an awkward case, I shall be happy to render you any assistance which lies in my power." I thanked him for his kindness, and said, as I should have to visit my patient in the evening, I should be happy to see him at that time if perfectly convenient; to which he readily assented, observing, that if he was prevented coming himself, his partner, Mr. Annandale, would do so in his stead. Six P.M. was the hour fixed. I was punctual to my appointment, and, on entering the drawing-room, was surprised to find Mr. Annandale, *with the bandages and pasteboard splints, which were applied in the morning, removed from the arm.* There was also present, Dr. White, a physician of considerable practice here. As soon as I entered, Mr. Annandale remarked to me very coolly, "that he had been informed by Mr. Nesham that I had discovered a fracture in the morning; to which I assented. After examining the arm for some time, he (Mr. A.) observed to Dr. White, "Here it is" (the fracture). Almost immediately after the arm was bound up again (in which operation Mr. A. took a prominent part), he and Dr. White left the room together, whilst I remained a minute or two to give directions to my patient. On

going down stairs, I observed Dr. White and Mr. Annandale talking together in the passage. As soon as they saw me, Dr. White turned round and passed me hurriedly, saying to me as he passed, "I wish to speak a few words to Mrs. D. (my patient), will you walk on with Mr. Annandale? When we had left the house, Mr. A. remarked to me, that it would be only *professional*, if Mrs. D. had a family surgeon, to give her the option of having his attendance on this occasion, which he had desired Dr. White to ascertain *for him*; if not, to ask *which of us two* she wished to attend her, which would save *clashing*; as it was not a case to require the attendance of two surgeons. I replied, that if Mrs. D. had a family surgeon, of which I was not aware, I should be glad to resign the case to him, as a matter of course; if not, I should consider the case to be mine. On calling the same evening on Dr. White, he told me that Mrs. D. had not a family surgeon; that her husband being absent, she did not know how to act; but that on his arrival at home she would consult with him, and communicate their decision to us the next morning.

When I called on Mrs. D. in the morning, I found that Mr. Annandale had been there before me; and she intimated to me, that Mr. A. being an old acquaintance, her husband and she wished him to have the management of the case, expressing at the same time that their decision was not actuated by any want of confidence in my professional qualifications.

To this statement I have merely to add, that as Mrs. D. had no family surgeon, I being the first who was called to her assistance, considered myself entitled to the charge of the case; and having been established in practice but one twelvemonth in this town, I conceived that being deprived of it, thus summarily, was calculated to do me a professional injury.

It is from no vindictive feeling that I have made public the above particulars, but from a persuasion that, if such cases were made known when they do occur, they would occur less frequently than they do at present.

I am, sir,

Your obedient servant,

J. B. MAUGHAN, M.R.C.S.L.

Newcastle-upon-Tyne,
Jan. 1, 1842.

RETENTION OF PLACENTA.

To the Editor of the Medical Gazette.

SIR,

HAVING read Dr. Murphy's paper in your GAZETTE of November 12, respecting the

Management of the Placenta, when retained, and of the service he had experienced in such cases by applying the abdominal bandage, I have been induced to transmit the following case, if you think it worthy of insertion in your valuable journal, wherein I had recourse to it, as confirmatory of his mode of treatment, although, at the time of my using it, I had not read his paper.

I was called to attend on M. O. at 7, A.M. of the 17th inst. who was in labour of her first child. On my arrival, I found the pains were gradually increasing, and the os uteri dilated to the size of a five-shilling piece; the presentation natural, the liquor amnii having been shortly previously discharged. As the os uteri was disposed to be rigid, I requested her to sit over warm water, which soon had the effect of relaxing the soft parts; after being in attendance three hours and upwards, the pains began to be less frequent and violent. Ascertaining the head to be well down in the pelvis, I ventured giving her the secale in decoction, which speedily increased the labour-pains, followed by expulsion of the child. Immediately after the child was delivered to the nurse, I placed my hand over the os uteri, and found it gradually contracting, which soon felt like a cricket ball, but without any after-pain succeeding, although I waited a few minutes, and therefore repeated the secale, which I have almost invariably found, from experience, to answer: however, after waiting fifteen or twenty minutes, the placenta still firmly attached to the uterus, although I had used gentle pressure, as well as slightly grasping the womb; yet no after-pains occurring, I was therefore induced to apply a wide bandage over the abdominal parietes: when this was adjusted, I took hold of the funis, pulling it gently, which was immediately followed by a slight pain, and expulsion of the placenta.—I am, sir,

Your obedient servant,
D. R. WALKER.

Budleigh, Salterton, Dec. 22.

ABDOMINAL BANDAGE.

To the Editor of the Medical Gazette.

SIR,

I REGRET not having seen, before this, the MEDICAL GAZETTE of the 10th instant, or I should earlier have acknowledged my obligation to Mr. Stapleton, of Trowbridge, for pointing out to me, in Dr. Waller, an additional evidence in favour of a principle in the management of the uterus, which appears to me at present but little attended to. The edition of Denman in my possession was published previous to the improved one of

Dr. Waller's; I was not, therefore, aware of his opinions upon this point of practice.

I perceive that Dr. Waller and Mr. Stapleton apply the abdominal bandage at the commencement of the second stage of labour, I am persuaded with considerable benefit. The period which I have been in the habit of selecting was on the birth of the child, when the uterus was deprived of that stimulus, and was altogether withdrawn from any support the abdominal parietes could give. At the same time it is right to state, that I have invariably adopted the practice recommended by Dr. Joseph Clarke; and, during the expulsion of the child, maintained, by the hand applied over the fundus, a steady support, which was continued until the bandage was applied. The utility of this method, as well as the relief which the patient experiences during the passage of the head through the pelvis, by pressing firmly on the latter with the band, convinces me that a bandage, properly applied, in the commencement of the second stage, would be of much service. The only objection to its use at this period which occurred to me, was the difficulty of preventing it slipping off the pelvis, and being altogether displaced by the restlessness of the patient during this trying stage. Such was the case in the few instances in which I used it previous to the delivery of the child; but a few failures are not a sufficient objection to a practice which seems so reasonable, and which Dr. Waller and Mr. Stapleton have followed with so much success. I am satisfied, therefore, that their recommendation is well worthy the attention of the profession.—I am, sir,

Your obedient servant,

EDWARD WM. MURPHY.

8, Brook Street, Grosvenor Square,
December, 21, 1841.

POOR-LAW ACT.

To the Editor of the Medical Gazette.

SIR,

IN your valuable journal I perceive a letter in reference to the anticipated change in the qualifications to be required of medical men undertaking the charge of parishes and workhouses. With regard to the meaning of its prospective operation, will you allow me to ask whether, in the renewal of contracts on such engagements (for the most part yearly I believe) for medical attendance on the poor, those individuals will again be admitted for selection as medical officers to act as general practitioners who are members of the Apothecaries' Hall only, and therefore, having undergone no examination on surgery whatever, cannot be considered qualified in that essential branch of practice?

The question seems to be, and permit me to say, a very stirring one I think at the present moment, whether, in the nineteenth century, consistently with any regard to the public safety and common justice to the profession, unqualified practitioners are to be allowed to rank on an equality with (I might add, forsooth, even in preference over, as is well known to have been the case in some instances, from predominant interest and a system of jobbing) those, who, by protracted study and expense, have become fully licensed?—I am, sir,

Your obedient servant,

A MEMBER OF THE APOTHECARIES' HALL
AND ROYAL COLLEGE OF SURGEONS.

December, 1841.

[We have made inquiry, and are given to understand, that such arrangements are in progress as will be necessary to rectify various clauses and defects of the present Poor-Law Act with respect to the medical profession. They must, however, we presume, be mentioned in Parliament before they are carried into effect.—ED. GAZ.]

APOTHECARIES' ACT.

To the Editor of the Medical Gazette.

SIR,

I BEG leave to express my gratification on reading your remarks (on the 24th inst.), on the Apothecaries' Act, its sins and defects. More particularly, however, I refer to those induced by its "fifth defect," "that it considers England and Wales as a separate and independent portion of the empire, and makes no provision whatever for the case of medical practitioners who, having been *born* and educated in Scotland, or Ireland, and found (after due examination by the constituted authorities of those countries) competent to practise, desire to give the benefit of their services to England." After alluding to your belief of the Company's willingness to reform that portion of the Act, you thus write, "It were useless, however, to slur the difficulties that here present themselves. The question of reciprocity is, in truth, the most ticklish in the entire matter of medical reform," &c. Now, whether correctly or otherwise, I have inferred that by the "*question of reciprocity*" is implied the existence, in Scotland, of restrictions upon medical practitioners educated and licensed elsewhere, corresponding with those imposed by the Apothecaries' Act on practitioners educated and licensed there, and which would require a *reciprocal* abrogation.

Whatever be the case as to Ireland, I

rejoice to be able to assure you, with something, perhaps, of a complimentary feeling towards my native land, that *there* no restriction is laid against the educated physician, surgeon, or apothecary, from whatever corner of the earth he may come; none even against the quack, except the good sense and education of my countrymen: that the Worshipful Company, and whole host of licentiates, might, if so minded, spread themselves like Egypt's locust, and wax fat, if they could, in "braid Scotland," without let or hindrance: and yet, men not deficient in literary, and equal at least in medical education, have been, since 1815, most ungenerously, shabbily, precluded from practising in England!

With grateful acknowledgment of the kind concession suggested by you, which, as an act of mere justice, will, I trust, soon be granted by the Worshipful Company,

I remain, your obedient servant,

SCOTUS.

December 29, 1841.

ACCOUNT OF AN OPERATION OF LITHOTRITY, PERFORMED IN THE 15TH CENTURY.

THIS account was found by M. Vanmeerbeck in a work by Antony Benivieni, entitled "*Antonii Benivieni Florentini medici de Philosophi, de abditis nonnullis ac mirandis morborum et sanationum causis liber.*" It relates to a woman who was affected for several days with retention of urine, "*propterea quod urinæ iter calculo obstrueretur.*" The disease not having yielded to any means, the author, adopting, as he says, an unusual but opportune plan, performed an operation, which is described in these words: "*Mecum calculo injicio, ne scilicet concussus iterum in usicam revolvatur. Tum ferramento priori parte retuso calculum ipsum perentio, donec sæpius ictus in frustra comminuitur.*" The patient was cured as soon as the debris of the stone were discharged with the urine.—*Annales de la Société de Médecine d'Anvers, and Gazette Médicale, Septembre 25, 1841.*

[It is plain that the stone thus broken lay not in the bladder, but in the urethra. This can therefore scarcely be regarded as the first example of the performance of what is commonly called lithotritry: nor could it easily have suggested the method of breaking a calculus in a male bladder].

MEDICAL STATISTICS.

Statistical Society of London,
4, St. Martin's Place, December 1841.

SIR,

THE Council of the Statistical Society has appointed a "Committee of Hospital Statistics," to consider the best means of procuring returns from the English hospitals, and of drawing up abstracts on an uniform plan, which would give the combined results of all the more important facts susceptible of statistical analysis.

I am directed to request your co-operation in carrying this design into effect, by consenting to meet the Committee and some influential medical officers of the London hospitals early in January.

The Committee propose, as a preliminary step, to obtain an enumeration of the name, sex, age, whether married or single, occupation, disease, and duration of disease, of all the patients in the London hospitals on Saturday, Jan. 8, 1842; or within two days of that date. It is believed that this may be done with comparatively little trouble; but the Committee have decided that it will be effected most satisfactorily by gentlemen nominated by the medical officers. They will, therefore, feel obliged, if you will recommend two enumerators (intelligent pupils, or other competent persons) connected with : and procure permission for the enumeration to be made—to which, it is presumed, there can be no objection.—I have the honour to be, sir,

Your obedient servant,

WILLIAM FARR,
Secretary to the Committee.

Names of Committee.—Dr. Baly; Dr. Clendinning; Mr. Coode; Mr. Edmonds; Mr. Farr; Dr. Guy; Mr. Rawson; Dr. Martin; Colonel Sykes; Major Tulloch.

ROYAL COLLEGE OF SURGEONS.

LIST OF GENTLEMEN ADMITTED MEMBERS.

Friday, Dec. 24, 1841.

F. M. Tweddell.—H. G. Bull.—F. de P. Carrillo.—D. H. B. Haynes.—S. J. Thomas.—J. Thomas.—G. J. Scale.—B. Winstone.—G. Yeo.—J. Spencer.—J. Peet.—W. B. Hepworth.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, December 16, 1841.

F. W. Barton, Coventry.—B. Leak, Holt.—H. G. Bull, Coventry.—J. J. E. Porter, Godshill, Isle of Wight.—E. Twining, London.—T. P. Matthew.—H. Girdlestone, Landford, Wilts.—R. J. Spitta.—S. Wandby.

Thursday, Dec. 23, 1841.

J. P. Lawrence, Chichester.—J. F. Chittenden, Faversham.—S. P. Goddard, Longton.—W. G. Davis, Warminster.—T. Seaton, Maidstone.—

J. L. Winchester.—J. J. Swindell, Barnett.—J. T. Brumwell.—H. W. Swayne.—J. Young, Ely.—J. Hudson, Huddersfield.—J. Underwood, Northampton.—J. Davies, Llanfyllin.—Joseph Rogers, Westmeon.—J. Waggett, Exeter.

A TABLE OF MORTALITY FOR THE METROPOLIS,

Shewing the number of deaths from all causes registered in the week ending Saturday, Dec. 25, 1841.

Small Pox	4
Measles	35
Scarlatina	10
Whooping Cough	46
Croup	12
Thrush	3
Diarrhoea	4
Dysentery	1
Cholera	0
Influenza	0
Typhus	25
Erysipelas	1
Syphilis	0
Hydrophobia	0
Diseases of the Brain, Nerves, and Senses ..	128
Diseases of the Lungs, and other Organs of Respiration	250
Diseases of the Heart and Blood-vessels	20
Diseases of the Stomach, Liver, and other Organs of Digestion	48
Diseases of the Kidneys, &c.....	5
Childbed	7
Ovarian Dropsy	0
Disease of Uterus, &c.	1
Rheumatism	1
Diseases of Joints, &c.	4
Ulcer	2
Fistula	0
Diseases of Skin, &c.	0
Diseases of Uncertain Seat	94
Old Age or Natural Decay.....	68
Deaths by Violence, Privation, or Intemperance	19
Causes not specified	7
Deaths from all Causes	795

METEOROLOGICAL JOURNAL.

*Kept at EDMONTON, Latitude 51° 37' 32" N.
Longitude 0° 3' 51" W. of Greenwich.*

<i>December.</i>	THERMOMETER.		BAROMETER.	
Wednesday 29	from 35 to 43		29.97 to 29.98	
Thursday . 30	29	40	29.98	30.05
Friday . . 31	26	39	30.11	30.10
<i>January.</i>				
Saturday . 1	28	37	30.06	30.10
Sunday . . 2	25	37	30.06	29.98
Monday . . 3	26	32	20.91	29.86
Tuesday . 4	18	31	29.81	29.89

Wind, west on the 29th ult. since N.E.

On the 29th, morning foggy, afternoon and evening overcast; rain fell in the morning and evening. The 30th, morning clear, otherwise cloudy. The 31st ult. morning clear, noon cloudy; evening overcast, and very dark. The 1st inst. and following day, generally cloudy, a little snow fell about 10 A.M. of the 2d. The 3d, generally clear. The 4th, morning overcast, noon clear, afternoon and evening cloudy; a little snow fell occasionally during the day.

CHARLES HENRY ADAMS.

NOTICE.

Mr. Braid's paper on Mesmerism can only be inserted in the *extra limites* department.

WILSON & OGILVY, 57, Skinner Street, London.

THE
LONDON MEDICAL GAZETTE,

BEING A
WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

FRIDAY, JANUARY 14, 1842.

NOTES FROM CLINICAL LECTURES,

*Delivered during the present Session,
at Univers. Coll. Hospital,*

By C. J. B. WILLIAMS, M.D., F.R.S.

Professor of the Practice of Medicine,
and of Clinical Medicine.

Reported by J. D. HEATON, M.B., Lond.

*Abscess of the liver.—Pleuropneumonia.—
Pericarditis.*

ANN DALBY, æt. 17, admitted Nov. 27, 1841, single: a housemaid, of pale complexion, spare habit, and short stature. She has always been weakly, but has never had any serious illness before the present attack. The catamenia have never appeared. Two days ago, while at dinner, she was seized with acute pain under the left breast; this continued, without intermission, till the next day: the pain was increased by a full inspiration, but there was no dyspnoea. Soon after the commencement of the pain in the chest, she also began to suffer from headache, and aching pains in the back, and throughout the whole body. On the second day after the commencement of her illness she was brought to the hospital.

At the time of her admission the face was quite pale, and had a very anxious expression: she was so weak as to be unable to stand without support. The pain in the left side, with which her illness commenced, was unabated; and there was great tenderness here and at the epigastrium. The aching and soreness in all parts of the body continued, and she felt great general lassitude and depression; pulse 90, soft, and weak; skin cool. The chest was examined, but the only morbid sign recorded, after this first examination, was too extensive dulness over the cardiac region, and a murmur with the first sound of the heart, best heard at mid-sternum.

Ten leeches were applied over the region
737.—XXIX.

of the heart; and three grains of calomel, with half a grain of opium, ordered to be taken at bed-time, followed by a senna draught in the morning.

On the third day the report is, that the pain in the chest is relieved by the application of the leeches, but had become severe at the epigastrium, and in the corresponding part posteriorly. She has no cough, but complains of some shortness of breath. The face is now rather flushed; the expression of the countenance is heavy; the pupils slightly dilated, and she often doses with the eyes partly open. (I would observe that this last is a very common symptom in cases of great weakness; and this state may cause, by the defect of nictitation, inflammatory injection of the conjunctiva of the open part, and even produce opacity if long continued.) She complains of headache, and was rather delirious during the night, but now answers questions correctly, though slowly; the tongue is indented at the edges, which are red, but the middle is covered with a remarkably thick white fur; the pain at the epigastrium is not increased by taking food. (This showed that acute gastritis was not the cause). The bowels have been much purged by the medicine, and some of the stools were passed involuntarily: the stools of a pale colour. No urine had been kept for examination.

The symptoms, at this time, were those of a low febrile disturbance, combined with a slight inflammation of the left pleura and pericardium, and perhaps a low gastro-enteric inflammation. We had repeatedly sought for the signs of effusion in the left pleura; but the stroke-sound, although dull in the lower region, was pretty equal on both sides, and we could find no friction sound. She was in too low a state to allow of any more active depletion than the application of the leeches prescribed at the time of her admission.

On the 29th, the epigastric tenderness

and looseness of the bowels continuing, she was ordered as follows:—

℞ Hydrarg. c. Cretâ, gr. ij. ; Pulv. Ipecac. Co. gr. iij. ; Pulv. Antimonialis, gr. i. ; ft. pulv. ter die sumendus.

℞ Liquor. Ammon. Acet. ℥ss. ; Sodæ Tartarizat. gr. x. ; Acid. Hydrocyanic. Dil. ℥v. ; Aquæ ℥i. ft. haust. ter die sumendus.

On the following day she was somewhat better ; but we now found that for which we had before sought in vain—a well-marked friction sound with the breathing below the left breast (indicating the presence of lymph on the pleura), and some dulness of stroke-sound, both here and in the corresponding part behind. The filing murmur, with the first sound of the heart, is still heard at the mid-sternum. Although the existence of pleural inflammation was no longer doubtful, the depressed state of the patient at this time forbade antiphlogistic measures, further than by the application of twelve leeches to the side, and the increase of the grey powder to four grains, adding a little kino to prevent its passing off by the bowels.

Dec. 1st.—Less pain in the side, but the part was hot to the feel ; and, on examining with the stethoscope, we found the breath-sound obscure throughout the left side of the chest, and mixed with some indistinct crepitation posteriorly ; while in front the breath-sound had a tubular character, with some bronchophony. These were all the signs of pleuro-pneumonia ; but we still took the same view of the nature of the case, that the inflammation was of an asthenic character, and insufficient to account for the depressed state of the system. Mercury was the principal remedy relied on for inflammation of so low a character ; but as it seemed to be rather extending, a few more leeches were applied, and the mercurial was ordered every four hours instead of three times a day only.

2d.—Pulse very frequent, 158, and feeble ; less heat of skin than before ; respiration thoracic. At this time this was accounted for on the supposition that the pleura covering the diaphragm was inflamed, so as to restrain the contractions of that muscle. The note of the stroke-sound in the upper part of the left side was louder, but more tubular and in a higher key, than on the opposite side. This I have before told you is a common sign in pleuro-pneumonia, and served merely to confirm the opinion already formed. There was very slight cough, and no expectoration.

On the 3d she was, in most respects, much the same, but bilious vomiting had occurred repeatedly : to this, however, we did not pay much attention, as it frequently occurs in connexion with diarrhoea, which still continued.

In order to relieve the sickness an alkaline saline was ordered with hydrocyanic acid, and the grey powder was given alone : the antimonial and Dover's powder being omitted.

On the 4th there was more pain in the cardiac region ; the pulse was 150, sharp and wiry. The existence of pericarditis was now announced by a creaking friction sound accompanying the motions of the heart : the other signs in the chest remaining as before.

Six leeches were applied to the cardiac region, followed by a blister : as the tendency to sickness had ceased, the saline was omitted.

On the 6th the pain at the heart was relieved ; the diarrhoea still continued. She said her gums were sore ; but on examining them there was no appearance of redness or congestion, nor was there the mercurial fœtor ; most probably there was no true mercurial action. The sounds of the heart were now unusually distinct at the sternum, and without rubbing sound, but heard over a very limited surface. We shall see that the situation of the heart observed after death sufficiently explains this. The heart was so pushed against the sternum, that it had not its usual play.

On the 7th there was evidently some exacerbation of the inflammation. A loud, rasping friction sound was now heard, both with the systole and diastole of the heart ; the skin was hot, and the pulse frequent and more sharp. The mouth still remained unaffected by the mercury. Weak as she was, 8 leeches were applied, and the mercury continued with the hope of acting on the system.

After this she complained little, and stated that she was much better ; but it was evident that the functions were suffering more, and the weakness was increasing.

On the 9th, for the first time, we observed fulness of the epigastrium, with dulness on percussion on the right side, reaching down to the spine of the ilium. There was no doubt, from the size and form of this dulness, that it was from the liver greatly enlarged. I had, before this, felt certain that there was something more than had been discovered in her complaint to account for the great depression and the absence of marked inflammatory fever, although there was evidently a considerable amount of inflammation in the chest, and a complete resistance to the action of mercury.

Rigors occurred, for the first time, on the evening of the 9th.

On the morning of the 10th she felt better, but still complained of being cold. Between 11 and 12 (noon) was attacked with severe pain of left side, with dyspnoea ; became very restless, with lividity of face, and died in a few minutes.

Sectio post-mortem horis iii.—Percussion

detected dulness as high as the third left rib in front, and an inch to the right of the sternum at the same height.

On cutting the left ribs with the bone-forceps, at about five inches from the sternum, a thick, opaque, yellow, foetid pus, issued from between the seventh and eighth ribs, and clear serum from between the first and second.

The pericardium and heart lay close under the sternum, from an inch to the right of it to about the same distance to its left: its sac contained about four ounces of clear serum. The heart (with the exception of a patch at its posterior surface of the size of half a crown) was covered by a coating of pretty firm villous lymph, here and there spotted with ecchymoses. A thinner film, of a similar kind, was on parts of the pericardial sac. The cavities of the heart were small: the wall of the left ventricle rather thick. There were only two aortic valves, one being nearly double the size of the other; at the centre of the large one was a small cartilaginous body, about a line in length, projecting from the aorta into the membrane of the valve, as if a rudiment of a division. The smaller valve was thickened. The pulmonary valves were of unequal size, very thin; and one of them was smoothly perforated near its angle. Weight of heart seven ounces.

The right lung was slightly adherent; otherwise natural. Left lung adhered, by recent lymph, to the lower part of the chest. In the upper part of this pleura were a few ounces of clear serum. The lower lobe of the left lung was dense, and devoid of air, but flaccid, and of a pinkish stone-colour: on minute inspection traces of recent lymph were found in its tissue.

Two or three ounces of pus lay between the lower part of the lung and the diaphragm, which, at its tendinous part, was white with pus infiltrated under its pleural covering; and in one spot was a perforation, admitting a little finger, communicating with a large abscess in the liver.

There was a little clear serum in the abdomen.

The liver was much enlarged, reaching *upwards* in the arch of the diaphragm higher than usual, especially on the left side; *downwards* to a level with the anterosuperior spine of the ilium; and *transversely* it occupied the epigastrium and left hypochondrium, as well as the right. Its upper part adhered, by soft lymph, to the diaphragm; and a fine granular patch of lymph lay on its anterior surface. On separating the left lobe from the diaphragm, there escaped much pus, like that in the left pleura, which was found to proceed from a large abscess, occupying the upper part of the left lobe, containing six or seven ounces. Some pus from this abscess lay between the liver and diaphragm, cir-

cumscribed by adhesion. The walls of the abscess were very irregular, with sloughy bands across, and were further completed by an outer light deposit of lymph, firmer than the texture of the liver. This texture in the neighbourhood of the abscess exhibited the usual red and light mottling, with exaggerated distinctness; but this mottling was scarcely perceptible in other parts, which were of a pinkish buff-colour, here and there with a yellower tinge. The texture was throughout very soft, and a pinkish creamy liquid was obtained by scraping it. Weight of liver four pounds (avoirdupois).

The gall-bladder contained a little purplish brown gall.

Spleen larger, paler, and firmer, than natural: weight nine ounces.

Kidneys rather large; the right rather mottled. Weight, right, four ounces and a half; left, five ounces and a quarter.

Stomach pale: mucous coat corrugated, and rather opaque and soft. Slight punctiform redness in ileum.

So far as regards the thoracic disease, you see how exactly the diagnosis was verified. Pleuro-pneumonia and pericarditis had been announced, and so we found them. The abnormal state of the aortic valves appeared to be congenital; and probably neither interfered with health, nor caused any sign of its presence, except, perhaps, under some circumstances of distension or displacement. There had been latterly no valvular murmur with the heart-sounds.

But the abscess of the liver, the probable cause of all the inflammations in the chest, was not anticipated. Nay, it was only within a few days of the patient's death that disease of the liver was discovered; and then only enlargement; such as is not unfrequently met with in cachectic subjects. The situation of the abscess was unusual, and little calculated to give signs of its presence; being quite on the left side, and occupying the upper surface, where the liver is buried in the vault of the diaphragm.

By taking a retrospect of this case, with the new light obtained through the post-mortem examination, we may obtain some useful hints towards the diagnosis of similar cases, although they are so rare that many of you will probably never meet such another.

We find that without distinct previous illness the patient was attacked with severe pain under the left breast only fifteen days before her death. Was this the commencement of the inflammation which afterwards resulted in hepatic abscess? or had the abscess begun previously without distinct symptoms, and was this pain caused by the abscess reaching the peritoneal covering of the liver, the diaphragm, and the corresponding part of the pleura? I incline to the

latter of these suppositions ; for the sloughy state of the walls of the abscess, the firmness of the lymph deposited around it, and the fœtor of the pus, seemed to indicate that the abscess dated back further than fifteen days. Then the symptoms at the commencement of her illness betokened something more than severe visceral inflammation. There was a state of depression and constitutional disturbance, unusual at the outset of acute inflammation, but explicable enough under the supposition that suppuration had already taken place. Abscesses do occasionally form in the liver without prominent previous symptoms. You will find the report of a case in my books of two years back, in which abscess of the liver, communicating with the colon, was found after death ; although slight pain in the left side and diarrhœa were all the symptoms which could direct attention to the liver during life. Illness prevented me from seeing that patient, but you may see in the report that the most prominent symptoms were there also connected with the chest.

The thoracic inflammations, although secondary, seem to have been the immediate cause of Dalby's sufferings ; and their existence and extent were pretty accurately watched and estimated : at their commencement there were no physical signs, the inflammation being probably confined to the diaphragm ; but subsequently the rubbing-sound, crepitation, and the dulness in the lower part of the chest, sufficiently proved the existence of pleuro-pneumonia : the dulness in the region of the heart, and afterwards the friction-sound, plainly announced that the inflammation had extended to the pericardium. There were, however, in the sounds differences from those commonly heard in pleuro-pneumonia and pericarditis. The dulness in the lower half of the left chest was very complete ; yet its upper half yielded a clearer sound than natural ; even more tympanitic and tubular than in common cases of pleuro-pneumonia ; the voice and breath-sounds too, in the middle regions of this side, were unusually tubular. Such phenomena might result from the upper part of the lung adhering to the wall of the chest, and being by fluid pressed with its tubes against it ; but we can now see that the same effect was produced by the tumor beneath the diaphragm pushing the lung to the upper part of the chest, increasing the consolidation of the lower lobe, and exaggerating the tubular and elastic properties of the upper lobe. The peculiar nearness of the heart-sounds under the sternum, and the temporary absence of the friction noise, I should ascribe to the same pressure from behind.

I have notes of a case in which the signs were almost exactly similar to those now

described ; and it was found after death that the thoracic inflammations originated from a collection of nearly a pint of pus below the diaphragm, between the left lobe of the liver, the stomach, and the pancreas. This collection seemed to have been caused by a perforation of the stomach by a chronic ulcer, which had closed up by adhesion to the pancreas. Something had probably passed through, which had caused inflammation and the secretion of matter between the viscera, and, circumscribed by adhesions, this collection of matter pressed on the diaphragm, and ultimately opened into the left pleura.

Ascites.—Cirrhosis of the liver.

Mary Wilkinson, æt. 38, married : admitted Nov. 6th, of middle stature, thin ; habits temperate : occupies a damp ground-floor at Finchley. Her father died of dropsy and asthma : he was of temperate habits. A sister is liable to extreme swelling of the legs during pregnancy. At the age of 15, patient suffered from pain under the right breast, for which she was cupped. Since that time has repeatedly had this pain, which sometimes remained for two months at a time, preventing her from lying on that side ; and occasionally shooting, but not to the shoulder. During her pregnancies her legs always swelled much. With these exceptions her health was pretty good, till three years ago, when, although not pregnant, she became affected with swelling of the legs, and ulcers above each ankle, which did not heal for eight months. The legs have been liable ever since to swell after standing long. Since the legs have begun to swell there has been less pain of the side, until within the last month : last spring she had them bandaged, but the swelling then became great and painful above the thighs, and she was obliged to remove the bandages. About a year ago, the abdomen began to swell, without partial tumor or pain. There was little increase of the abdomen till 12 weeks since, when the legs became smaller ; and two months ago, the urine became very scanty (not more than a tea-cupful in 24 hours), and the belly then rapidly increased to a size even larger than it has at present. At the same time, she suffered much from pain in the back, hips, and right hypochondrium, where it was sharp and darting, and prevented her from lying on that side.

She had some hydragogue purgatives, but obtaining no relief, a fortnight ago the abdomen was tapped, and eleven quarts of a clear yellow fluid were drawn off. On the third day, the returning swelling made it necessary to loosen the bandage ; and has continued to augment to the present time. The urine has remained very scanty, and deposited (to

use her own words) a "rose-pink sediment." For the last thirteen years she has gradually lost flesh and strength.

At present, (Nov. 9th), she can lie on either side. Skin cool, rather dry; feet and legs generally cold; complexion sallow; no pain in abdomen, but a feeling of tension and bearing down on attempting to walk or stand. It now measures, round margins of ribs, 35 inches; at its greatest circumference $41\frac{1}{2}$; from ensiform cartilage to symphysis pubis $16\frac{1}{2}$. Fluctuation felt very distinctly and superficially in all parts. The stroke-sound is intestinal above the umbilicus, in the right iliac region, and between the right crista ilii and the false ribs, and dull in all other parts of the abdomen. Some tenderness in right hypochondrium on firm pressure; abdominal swelling precludes feeling the shape of the liver. Breathing oppressed, chiefly costal; occasional fits of coughing without expectoration; pulse 90, small; tongue indented, tremulous; bad taste in mouth; appetite moderate; no pain in region of kidneys; passes only half-a-pint of urine in a day; it deposits a copious dingy-red sediment, which is re-dissolved by heat, not by liquor potassæ; precipitated by nitric acid alone, but rendered clear and dark brown by this and heat together.

In referring to this history for materials for our diagnosis, we first notice dropsy in some form having occurred in two members of her family. Her father's dropsy, being combined with "asthma," probably arose from diseased heart. The swelling of the legs, which preceded the present complaint, might be supposed to proceed from varicose veins in the legs, as the ulcer was probably of that origin; but the swelling above the bandage shewed that there was a cause higher up. Whatever this may have been, it seems to have diminished on the increase of the abdominal swelling. The nature of this swelling was very plain from its physical characters. It was general, not beginning nor predominating on one side, like ovarian dropsy. The fluctuation on percussion was so superficial that the gentlest and the strongest impulse made it equally evident; and was so general that the stroke-wave could be felt from one flank to the other, without membrane or tumor to intercept it. The liquid must, then, be in the sac of the peritoneum; ascites must be the form of the dropsy. But what should cause the tympanitic sound in the right flank, into which, as the lower part in the supine posture, liquid in the peritoneal sac should have gravitated, as it did on the left side where the sound was dull? We must conclude that the colon was bound down by adhesions on the right side, near which, the history informs us, there had been repeated attacks of pain for

many years past. And this brings us to consider the cause of the ascites.

Dropsy is generally caused by imperfect return of blood through the veins; and when the dropsy is confined to a part, and that not the lowest part, we may be sure that the veins proceeding from it are, more or less, obstructed. Disease of the heart, or obliteration of the inferior cava, would cause ascites, but they would sooner, and more readily, cause anasarca of the legs. In this case, although the legs had swelled, their swelling was now nothing in comparison with that of the abdomen. It is in obstruction of the portal circulation that we must seek a cause for simple ascites; and such an obstruction we know to be produced in certain diseases of the liver. Now the disease, of all others, that most obstructs the circulation through this organ, is the contractile variety of that called cirrhosis. Dr. Carswell considers this to be an hypertrophy of the cellular texture which is extended from the capsule of Glisson, ending in contraction, which, by pressing the blood-vessels of the liver, obstructs them, and causes atrophy of the proper tissue of the organ. That something of this kind constitutes cirrhosis, I have no doubt; but I see no grounds for confining the primitive change to the capsule of Glisson. Cacoplastic lymph may be effused in any tissue, in parenchymatous, cellular, and serous, and wherever effused becomes a harder tougher tissue, which often shows a remarkable tendency to contract and injure the function of the affected organ. Cirrhosis of the liver, and granular degeneration of the kidneys, are examples of its effects. This lymph may be thrown out by vessels in chronic inflammation, and, as I believe, also by vessels merely congested, with a bad state of the blood, the nutritive material.

In the present case there were indications in the history of repeated attacks of congestion or low inflammations in the liver, which no doubt gradually led to the formation of structural disease. The progress of this was accelerated on the healing of long-standing varicose ulcers on the legs; and then it was that the ascites first appeared. But the rapid increase of the swelling was connected with another circumstance of great moment in dropsical diseases—the sudden diminution in the secretion by the kidneys. So long as these acted well, they reduced the bulk of the blood to suit the capacity of the diseased liver: when they failed, the obstruction operated; congestion and dropsy resulted. The patient said that there had been a pink sediment in her urine: this is said to be frequently observed in cases of diseased liver: none occurred during the period of her stay in the hospital: there was often a deposit, but it was of the ordinary lateritious kind.

So much for the diagnosis and pathology of the case. With regard to the treatment, so rapid and extensive had been the swelling that tapping had been already resorted to, and the fluid was again speedily accumulating. To prevent this, various other remedies were tried with the view to restore an increased action to the kidneys, particularly combinations of blue-pill, squill, and digitalis, but without avail. Hydragogue purgatives were also used, but with no better effect. On the 16th, tapping was therefore practised, and there were drawn off 12 quarts of clear yellow serum, coagulable by heat and by nitric acid.

Large doses (gr. viij.) of iodide of potassium were then given, but with no good result. On the 19th, there was more pain and tenderness in the abdomen, chiefly on the right side; and a day or two after, a friction sound was heard in the lower part of the right chest, indicating the effusion of a little lymph. These symptoms were removed by leeches and a blister.

On the 29th (less than a fortnight after the operation,) it was required again, when $13\frac{1}{2}$ quarts were removed, yet the abdomen was still large, with distinct fluctuation. It is very difficult to remove all the fluid, portions of intestine float forwards and close the orifice. After this operation, the urine became increased from half-a-pint to a pint in the day; and consequently the swelling returned more tardily. At this time she was given small doses of elaterium, which she bore well. Now feeling herself better, she expressed a wish to go home where her presence was much needed, and on the 3d of Dec. she was discharged relieved.

The future progress of this case will be, that she will go on swelling and requiring tapping, until the constitution sinks under increasing debility. The organic disease is too far advanced to admit of removal.

CLINICAL LECTURES,

By Dr. CLENDINNING,

Physician to the St. Marylebone Infirmary.

LECTURE V.

CASE I.—*Inflammatory Dropsy and Rheumatism.*

WILLIAM MARSHALL, coachman, 41 years of age, admitted Dec. 14, 1841, with rheumatic pains of some months' standing. This patient had been previously under my care for a different disease. March 19, 1841, he was admitted under me for acute dropsy, involving more or less every part of his body. He had been ill a fortnight before his admission in March, with stiffness and evening swelling of his legs, and scantiness of urine, which was sharp and felt "cutting" in the

passage. He was actively treated from the commencement. Having a rather slow, full, hard pulse, with thirst, difficulty of breathing, and a highly albuminous condition of the renal secretion, he was bled several times from the arm, viz. on the 4th, 11th, and 30th days of treatment. He took likewise diuretic purgatives, especially compound powder of jalap, almost every other day, for many weeks. On account of swelling of the scrotum, so great as to threaten sloughing, he had acupuncture to give vent to serum, several times to that part with advantage. About the 26th day of treatment (viz. April 16th, ult.) he had swelling and very threatening inflammation of the whole right leg and thigh, something like erysipelas, for which spirit lotion was applied with advantage, together with a suitable posture; at the same period hæmaturia came on, and he passed only brown, porter-coloured urine for several days. This feature of the case, however, soon disappeared under the use of a mixture of decoction of—

Uva Ursi, ζ iss.; Træ. Digitalis, $\mathfrak{m}\mathfrak{x}$.; Dilute Nitric Acid, $\mathfrak{m}\mathfrak{x}$.; and Træ. of Henbane, ζ ss. repeated every four hours.

About the 43d day of treatment his legs and arms were quite reduced to the normal size; his urine had, for some 14 days, been flowing, and still flowed freely, of a straw-colour, but still albuminous. His general appearance quite that of health. He was then allowed some animal food and a little ale, in order to prepare him for going into the country, whither he was desirous of repairing, and he was discharged May 15th, on the 55th day of treatment. Before he went out of town he came to consult me twice, and I put him on the use of cream of tartar daily, in quantity sufficient to act gently on the bowels and sensibly on the kidneys; and on this plan he proceeded for several weeks with advantage. For three months before his second admission he had been suffering from rheumatism much more than usual. He had, however, been subject to rheumatism for the three previous years. When admitted last, he complained principally of pains in his knees and feet; he had thirst; pulse 64, soft; tongue yellow and moist; bowels open. He was put on the following:—

Sumat. Decoct. Cinchon. ζ iss.; Træ. Colchici Comp. $\mathfrak{m}\mathfrak{x}\mathfrak{v}$. 6ta q.q. horâ. Fish diet.

17th.—Says he is better; tongue clean; pulse quiet; looks well; *his urine yields no albumen to heat or acid.*

19th.—Mending; more strength; expression and general appearance those of florid health.

Meat daily for dinner.

21st.—Convalescent, and well enough to go out. Discharged cured.

REMARKS.—I bring this case under your notice as one of some interest, not on account of the actual or recent symptoms, which were mild and common-place enough, but because of the example it affords of the at least apparently complete success of the new method of treating certain forms of dropsy. I have lately had occasion to bring under your notice an example of the same class, but much less severe and striking. I mean that of Robinson, in the third lecture I think. This case of Marshall was nearly as severe as any not fatal that I have seen. He had buffy blood; slow, full, hard pulse; much dyspnoea, with dry cough, and tightness under the sternum; the strongest inflammatory tendencies, as shewn by the erythematous inflammation of the scrotum, and right lower limb. His urine was in a high degree albuminous, and of very low specific gravity, and for several days deeply tinged with blood; and the oedema and effusion were general, and in the scrotum, and right leg, and thigh, so great as to cause alarming inflammation. Under these circumstances he was treated exclusively almost on the antiphlogistic plan, and with the most satisfactory results. He always expressed relief after the bleedings. This method of treating dropsies, or rather perhaps the existence of a class of dropsical affections requiring such treatment, though known to the learned as a matter of history (I allude more particularly to the writings of Stoll and J. P. Franck) for perhaps three quarters of a century, if not more, was, I think, by no means a fully received doctrine in Edinburgh when I studied there some twenty years since. One of the first striking examples that came under my notice occurred in the Royal Infirmary about 1821, in the person of a male adult admitted with symptoms of acute dropsy, and from whom Dr. Graham, to the great astonishment of many of us students, took away upwards of seventy ounces of blood at a single operation. This man, as I recollect, did well. My own first practical acquaintance with it was acquired in the practice of the New Town Dispensary of that city under Prof. Alison, to whom I was attached as a clerk for more than a year. And the earliest case attended by myself, that I remember, was one occurring in a child after an attack of scarlet fever. In this case Dr. Abercrombie, and Dr. Tweedie, now of London, were consulted, and the child was bled largely from the arm under their authority, and with good results. Since then the disease has become better known, and especially within these twelve or fifteen years, or since the important discovery of Dr. Bright, and very much through the instrumentality of the splendid illustrations of it given in his Medical Re-

ports; and now it is a disease very frequently recognized, and much more successfully treated than formerly.

Of the pathological condition, which is, apparently, the only absolutely essential material element or cause known of the acute albuminous dropsy, viz. a peculiar morbid state of the blood, I shall have hereafter opportunities of bringing other illustrations under your notice, as the grave lesions, functional and organic, excited by, or at all events connected with it, as frequent complications, are very numerous and various.

CASE II.—*Delirium Tremens.*

T. S., servant, 31 years of age, middle-sized, brought in by the police, and admitted into the vesania ward between three and four in the morning of Dec. 17th, with delirium and other effects, of what ultimately proved to be delirium tremens. Immediately on his admission he appeared to the nurse, in some measure, sensible of his situation for about an hour; but then grew worse, and unable to give any account of himself. When Dr. Boyd saw him, his vascular excitement, heat of head, &c. suggested the propriety of bleeding, and he was cupped on the nape to eight ounces, and had a calomel pill, with broth diet. Later in the day (17th) I saw him.

1 P.M.—He is now in a state of considerable excitement; talking rapidly and incoherently; with his face flushed; his pulse rapid, but feeble; his tongue coated. There are no striking tremors of the limbs: *the tongue, however, is tremulous.* From information collected from himself two or three days afterwards, it appeared that he had lately been indulging very freely in the use of ardent spirits. He told me, that he had been ten weeks out of place; and that about a month after leaving his last situation, he had sustained a heavy pecuniary loss—having lent a large sum to an acquaintance who had decamped with it, and that in consequence he had taken to drinking; and that for some five or six weeks previously he had indulged so freely as latterly to have lost all desire for solid food, and all relish except for stimulants. He had always previously enjoyed good health, having never in like manner exceeded or been attacked before.

These particulars, however, I collected from him only after the subsidence of his delirium on the 19th, or the 3d day of treatment. Under the circumstances first described I ordered the following:—

Sumat. Antimon. Tartrat. gr. i.; Liquor. Opii Sedat. ℥v.; Mist. Camphoræ, ʒiiss. 2da q.q. horâ.

Expecting to see him again that night, I did not then order him a sleeping dose, according to my usual practice in such cases.

And I was prevented, by circumstances not anticipated, from seeing my patient again before the next regular visit day, viz. the 19th, when I had the following report :—

For about 36 hours after he commenced the antimonial and opiate mixture, his delirium continued apparently unabated; he slept none, and continued talking incoherently about drink, &c. until the morning of the 19th, when he became gradually quiet early in the day, with a pallid countenance, and ultimately a somewhat peculiar breathing, with a sort of sobbing, like that of hysteria, and other appearances that alarmed the nurse, and caused him to send to me before the usual hour of visiting the ward. On examining him, I found him in a state of nervousness and incipient collapse, with the pulse very feeble and rather irregular, feet cool, &c. There was no longer any remnant of delirium. He could answer intelligently so far as his powers would permit the necessary effort. The remedies appeared to have fully succeeded in subduing the cerebral disturbance and vascular excitement, and he was now on the point of passing into a state of exhaustion. The remedy best adapted for the present state of things was obvious. I ordered him two ounces of gin, to be repeated at regular intervals, and added arrow-root beef-tea to his diet.

In the evening I was again enabled to visit him, when I found him much improved, and without any unpleasant symptoms whatsoever. His bowels had been four or five times open since morning; his pulse was full enough, and of tolerable power, and quite regular, at a little above 100. He had ten ounces of gin since morning. He was quite intelligent; skin moist and warm; no pain or excitement. I ordered him the following sleeping dose.

Sumat. Mist. Æther. Comp. \mathfrak{z} iss.; Liq. Opii Sedat. \mathfrak{z} ss. h. s.

Dec. 20th.—Reported to have slept well several hours; quite rational; no tremor, even of the tongue; pulse rather weak, and about 68; tongue dirty in the middle; bowels open; appetite middling.

Had some three ounces of gin this forenoon.

To continue the gin at longer intervals, and the draught at night.

21st. — Better in all respects. Pulse, tongue, appetite, bowels, also nearly normal.

To have two pints of ale in the day instead of gin; and fish diet, and sleeping draught at night.

22d.—Improving steadily.

To have a chop for dinner.

After this no further notice of the case is required. He has been for nearly a week convalescing steadily, and is now on the point of receiving his discharge.

REMARKS.—Respecting the precise nature of this case there was some uncertainty at his admission. Having been introduced into the house by parties unacquainted with him, viz. the police, and having been, when seen by the resident physician, unable quite to give any account of himself, no certain conclusion could be drawn, and of necessity the treatment was suggested by the present symptoms and appearances exclusively. Such defective information respecting the antecedents of attack involving delirium is of daily occurrence with us, and is one of the greatest difficulties besetting our official practice. Had the patient been able to help us, or had his assistants been able to communicate the circumstances under which the attack commenced, we should probably have taken a course of treatment somewhat different in the details, and not more out of deference to authorities and precedents than in accordance with our own experience in this place, we should very possibly, in that case at the least have had recourse earlier to diffusible stimuli, by adding æther or alcohol to the antimonial solution, or by giving gin or brandy separately and concurrently with the opium and tartar emetic. But under any circumstances, so far as I can judge, no more rapid solution of the case could be looked for, nor one more fortunate, and in every way satisfactory.

I think it very possible, that the use of opium, on the first night of the antimonial treatment, in a considerable dose, combined (as is usual with us) with æther, &c. would have shortened, in some measure, the delirium, or at least have prevented the nervous symptoms, on account of which the gin was ordered as above described, and thus have rendered the current of the attack more smooth and less anomalous, though not in its results more harmless. Of the happy effects, in very severe cases of delirium tremens of a medication, such as that just glanced at, and including at once antimonials, narcotics, and alcoholic stimulants, a good example fell under my observation in private practice not long before the admission of the patient whose case I have just related.

CASE III.—The case was that of a gentleman, 30 to 40 years of age, habitually indiscreet with regard to strong liquors, and who had had repeated attacks of the disease in the course of a few years. This gentleman became again the victim of a very severe attack during the present season. When I saw him he was in a state of high excitement, vascular and nervous, with well-marked tremors of the limbs, and other characteristics of the complaint under consideration. His illness was of several days' standing, during which ammonia, valerian, opium, and æther, and alcoholic stimulants, had been pretty freely employed

by the judicious medical attendant of the family. But no sleep could be obtained, and consequently no material improvement had been effected. On a former occasion, at my suggestion, Mr. Guiseppi, the medical attendant of the family, had applied a few leeches to the temples, on account of great heat of scalp, with rather sthenic action of the carotids; and after the leeches, sleep was procured by doses of opium, which previously had been found unsuccessful. But in this attack a similar use of leeches had done no good whatsoever, and in consequence I was consulted. I found him labouring under excitement and illusions characteristic of the disease, with an arterial pulse, irritable and rather feeble; his limbs more or less tremulous, unless when actively exerted, as in walking up and down the room; and his head free from inflammatory heat. I advised the following:—

℞ Antimonii Potassio. Tartrat. gr. iss.;
Spir. Æther. Sulph. ʒss.; Liq. Opii
Sedat. ℥viii.; Mist. Camphoræ, ʒiss.
M. pro haustu 2da q.q. sumend.

To the preceding I added a strong opiate hypnotic—

℞ Liquor. Opii Sedat. fʒiss.; Spir.
Ammon. Arom. fʒi.; Mist. Camph.
ʒiss. M. pro haustu h. s. sumend.

I also recommended the employment of a male attendant of experience. I saw this patient no more. Soon after commencing the antimonial opiate mixture he became quieter, and he had several hours sleep that night; and the same plan being continued for three subsequent days, he gradually and steadily came round, and was, about the eleventh day of treatment, restored to his usual health.

This gentleman took, in the course of the day when I prescribed for him, and the three following days, as Mr. Guiseppi assures me, nearly two drachms of tartar emetic, without purging or vomiting at any time, and even without nausea for the first two days. On the third and fourth days he complained of some nausea, without subsequent vomiting, however, in the morning after waking. He took, in the course of the same four days, nearly an ounce and a half of Battley's sedative, without the least inconvenient result. After the fourth day the opium was rapidly diminished, and the tartar emetic altogether abandoned as unnecessary, on account of the disappearance of the symptoms on account of which I had advised it.

CASE IV.—*Masked Phthisis.*

Eliza Merret, æt. 16, servant, admitted Dec. 13, 1841. Being admitted in my absence, she was first prescribed for by the resident physician, who, finding her com-

plain of pain of the right side, with some fever, and other symptoms of three or four days' standing, ordered the antimonial mixture four times daily, with calomel and opium pill twice daily, and a blister to the right side.

Next day, the 14th, I saw and examined her. She stated that about a fortnight before her admission she slept in a damp bed while under menstruation, and that she thence got cold, with stiffness, &c. of the right side; that two days after she had sharp pain in the same side in breathing, or in using the arm so as to exert the shoulder or arm; that she had then applied to a Dispensary, where she was bled and blistered and purged; and that she was afterwards enabled to return to her service; where, however, she soon relapsed, when she applied for admission into the Infirmary. She states that before sleeping in the damp bed her health had been good, yet that seven weeks had intervened between the last menses and the preceding. Her appearance was that of fair health: she had little visceral derangement apparently; a slight cough with yellow scanty sputa; pulse 100, moderate in size and power; some thirst; has pain now of right shoulder; there is no tenderness on pressure or percussion of the side: on a cursory physical examination no important defect of resonance, penetration, or expansion, was observed on the side complained of, viz., the right. The remedies already prescribed were therefore continued until something should indicate other measures.

15th.—Easier; bowels confined.

Ht. Haust. Sennæ, c. Spirit. Ammon.
Arom. ʒi. stat.

16th.—Fever much abated; cough more prominent.

Ht. Mist. Tragacanth. Comp.; Mist. Antimonialis, aa. ʒv. 6ta. q.q. h.

17th.—Better of the fever; appetite pretty keen. To have one chop for dinner.

19th.—Cough troublesome.

Emplast. Cantharid. inter scap. dorso.

20th.—I found her this day complaining more of cough than previously, especially at night, and perceiving no sufficient cause, I proceeded to re-examine her chest minutely. After careful exploration the following were recorded.

The right subclavian region appears to be slightly defective, as compared with the left, 1, in shape; 2, in mobility; 3, in resonance; and 4, in penetrability by air: viz., it was found to be somewhat depressed; to expand less satisfactorily in inspiration; to be slightly duller on percussion; and to yield considerably less of the soft vesicular murmurs. The inspirations were attended

in that part with a comparatively loud sound, transmitted apparently from the larger air-tubes; and the expiration was heard preternaturally distinctly. On examining 5, the axillary, and 6, the superior scapular regions, a slight, but, to a practised ear, unequivocal difference of resonance was detected, and in each the right side was deficient.

Having elicited these important minutiae, I amended my former diagnosis, and announced—Tubercul. pulm. dext. c. Rheum. recent lat. dext.

Ordered instead of the former medicine,

Mist. Tragacanth. comp. ℥iss.; Spir. Ammon. Arom. ℥ss.; Træ. Camph. Comp. ℥ss.; 6ta. q.q. hora.

22d.—Says she is better; her medicine checks the cough, and gives her strength, she thinks.

Rep. Haust. Tragacanth. c. Spir. Ammon. Arom. and Træ. Camph. Comp. 4ta. q.q. h. adjecto sing. dosibus Liquor. Potass. Bicarb. ℥i.

24th.—Better in all points she thinks; appetite keen. To have two chops, with half-a-pint of ale, for dinner, and extra bread.

29th.—Much amended; diet and medicine as before; no fever; very little cough; strength recruited; likely, in a few days, to leave the house for her service; detained at present partly by an unhealed blister.

Jan. 2d.—Discharged.

REMARKS.—This girl had no sputa characteristic of phthisis; nor at any period, she assures me, any spitting of blood. The diagnosis turned exclusively, so far as the chest was concerned, on minute differences in the physical phenomena observed when measured by the healthy standard; and in this case by the opposite side, which was probably quite normal. Each single point of difference between the sides was too slight to warrant my regarding it as beyond the limits of normal variation. Since complete symmetry between the opposite halves of the human person is a thing unknown, or nearly so, I should have thought myself justified in neglecting any minute defect of correspondence between the right and left sides of the chest, had that defect been limited to a single aspect or feature of the case. But the coincidence of as many as six or seven points of difference, each suggesting one and the same conclusion, a conclusion which was in itself sufficiently probable, viz., that the subject, a girl of 17, had organic disease of one lung, left no room for reasonable doubt. Having decided this point, I discarded antimony and other febrifuge and expectorant means as useless, if not mischievous, in the absence of inflammatory

fever or acute bronchitis; amended her diet; and ordered ammonia and opium in small doses; and the patient, under this soothing and sustaining plan, quickly came round, and was discharged cured of her attack, with the tuberculations reduced once more to a quiescent condition.

ON THE MANAGEMENT OF THE PLACENTA.

By JOSEPH BELL, Surgeon, Barrhead.

(For the Medical Gazette.)

It affords me great pleasure to give my testimony to the efficacy of the mode of managing the placenta recommended by Dr. Murphy, in the last monthly part of the MEDICAL GAZETTE. I have employed the bandage and manual support in the manner stated by him for some years. Since I have adopted the practice, I have been under the necessity of introducing the hand to bring away the placenta only in two instances*. I will quote two cases to illustrate the effects of the treatment.

CASE I.—June 27, 1839. Mrs. M'C., æt. 32 years, a stout active woman. Was called to visit her at eight, P.M. About six hours previous to this she had given birth to a child. About an hour after the child was born, the placenta not coming away, the midwife pulled at the cord until it broke. The uterus felt firm and contracted, and was lying in right iliac region. No hæmorrhage. Pulse 80. She had occasionally a trifling pain. It was her eighth pregnancy. Her labour was very quick, lasting only about an hour. A bandage was applied, the uterus was brought to the hypogaster, and firm pressure made with both hands on its fundus: in a minute or so she took a sharp pain. The pressure was continued for half an hour, when the placenta was forcibly expelled. During this time she had severe pains, causing her to make considerable outcry. A compress was placed over the fundus uteri, and the bandage made firm. The woman had an excellent recovery.

CASE II.—Mrs. K., æt. 27 years, mother of five children. Was called to see her about midnight, on the 6th December, 1840. On my arrival I learned that she had given birth to a child about

* One of these cases will be found in the 27th volume, at page 546, of the MEDICAL GAZETTE.

four hours before I was called, but that the after-birth had not come away. The midwife had pulled the cord until it broke, as in the former case, and, in addition to this, she had deluged the poor woman with cold water. The pulse numbered 90. The uterus was lying firmly contracted in left iliac region. There was no hæmorrhage. A firm and broad bandage was applied, and pressure with the hands made on fundus uteri. In a few minutes a sharp pain was felt; this was quickly followed by others; and in twenty minutes the placenta was lodged in the vagina, from the contracted state of which the introduction of the hand was required in order to extract it. The patient had a good recovery.

I have not only found the bandage useful in such instances as the foregoing, but have also experienced great benefit from its application previous to the birth of the child, particularly in that class of females in whom we find the abdominal parietes weak. In such instances the pains generally produce but little effect on the presentation, even although they occur regularly, and cause much uneasiness to the woman. The application of a bandage (sufficiently broad to reach from the lowest part of the pelvis to the epigaster), put on firmly, has been followed, in these cases, by more efficient pains, and rapid advancement of the labour.

After the child is born, I tighten the lower part of the bandage, and then grasp the uterus with both hands, making firm and continued pressure over the fundus until the placenta is expelled—a circumstance which generally takes place in a few minutes. In no instance has the time exceeded half an hour, except in the two cases to which I have alluded.

I will quote a few cases illustrative of this mode of treatment.

CASE III.—January 20th, 1839, four o'clock, A.M. Mrs. L. æt. 23 years, first pregnancy. She is of slender habit, and dark complexion. Pulse 100. Pains not very severe; os uteri fully dilated; presentation natural; head entering cavity of pelvis, pains producing little effect on its advancement. Waters came away four days since; pains commenced then, but have occasionally subsided for several hours. The passages are of normal dimensions, and are

moist and cool. At seven o'clock, there being very little progress made, and pains continuing slight, half a drachm of powdered ergot was given in infusion. At eight o'clock there was no improvement; the ergot was repeated without any apparent benefit. At nine o'clock a bandage was applied round abdomen. Immediately afterwards the pains commenced increasing in power, which they continued to do until ten minutes to ten o'clock, when a still-born female child was expelled. The placenta followed in a few minutes. From the blackened appearance of several parts of the child's body, from which the cuticle was separated, it must have been dead for some days. Good recovery.

CASE IV.—January 30th, 1839, eight o'clock, A.M. Mrs. P., æt. 26 years, of a weakly habit; third pregnancy. Has had pains since midnight. Pulse 98. The os uteri dilated about size of palm of hand; waters protruding and distending membranes; presentation natural, and head descending into pelvis; pains, though regular, yet are not effective. Little progress was made at eleven o'clock, when a bandage was applied to abdomen. After this pains became much more powerful; and, at noon, a fine male child was expelled. The placenta came away at the end of ten minutes. A compress applied under the tightened bandage. The patient had a good recovery.

CASE V.—Feb. 11th, 1840. Mrs. B., æt. 33 years; seventh pregnancy; a delicate-looking female, dark complexion, of inactive habits. Uterine pains commenced three hours since, and were preceded by the rupture of the membranes, and escape of the waters; os uteri fully dilated; head presenting, with occiput to left groin; pains producing very little effect. After waiting two hours, and finding that, though the pains were frequent and regular, little progress was made, a bandage was applied. This was followed immediately by more efficient pains; the child was born in an hour and ten minutes after its application. The placenta came away with child. A compress applied over uterus, and the bandage tightened. An excellent recovery.

I might narrate many cases similar to those now quoted, but I am unwilling to occupy too much space. I trust the above will be sufficient to show the be-

nefit to be obtained from the practice adopted. I would also observe, that the cases quoted are confirmatory of the views held by Dr. Murphy, respecting the assistance yielded to the uterine effort by the abdominal muscles.

There are, however, cases of retained placenta, in which the above measures are attended with very little benefit. I allude to those instances in which there really does exist *inertia uteri*. In such cases, on grasping the uterus through the abdominal parietes, it feels soft, relaxed, and large; there is hæmorrhage. Though steady pressure be made, yet all the good it confers is a temporary and slight contraction of the uterus, and perhaps the expulsion of a few clots. The plan which I have found most efficacious in producing firm contraction of the organ, and expulsion of the placenta, in these cases, is very simple, and of easy application. It consists in putting the child to the mother's nipple. This has always been followed by uterine contraction, cessation of the flooding, and expulsion of the secundines. After this occurs, I place a firm compress over the fundus uteri, and tighten the bandage.

In the two following cases this plan was employed * :—

CASE VI.—December 4th, 1840, 11 o'clock, P.M. Mrs. M., a tall female, of a bloated appearance, is very hysterical and nervous; eighth pregnancy. Has been pained for the last eleven hours; os uteri dilated about the size of a crown piece; presentation natural; membranes entire, but are much distended with the liquors; pains are strong and effective; pulse 96. She is anxious, and very talkative. After delivery of last child she had a severe flooding, which, she says, continued nearly four days. A bandage was put round abdomen. Pains continuing good, at half an hour past one o'clock, on the 5th, a large female child was born. After separating the infant, the hand was placed on abdomen, and the uterus was found soft and large. Firm pressure was maintained for half an hour, with the effect of only causing slight contractions of a temporary nature. At this time a gush of blood took place from the vagina of a

very alarming character. The hand was now introduced into vagina, which was uncontracted, and filled with clots and fluid blood. The os uteri was found open and flabby; uterus much distended. The patient became pale and ghastly-looking, and commenced tossing her arms about, and sighing deeply. The child's mouth was immediately put to the nipple, when the uterus instantly contracted powerfully, and expelled an immense quantity of fluid and clotted blood; another contraction occurred in about five minutes, which forced a large placenta into the vagina, which was cleared out by the hand. Pressure with both hands was maintained over the uterus for a quarter of an hour, and as it showed no symptom of relaxation, and as the flooding had completely ceased, a firm compress and bandage was then applied. The patient had a tolerable recovery.

CASE VII.—May 22d, 1841, 1 o'clock, A.M. Mrs. M'I., æt. 22 years; second pregnancy; a stout healthy-looking woman. Pulse 78. Labour pains commenced about two hours since; os uteri dilated about the size of a crown-piece; membranes protrude during a pain; head presenting with face to left groin; pains pretty strong. A bandage was applied to abdomen, and at four o'clock a fine female child was born. The uterus neither contracted firmly on placenta, nor assumed its globular form, but was more of a square shape, and felt soft. It was kept with the hands in the hypogaster, and firm and continued pressure made on its fundus. At half-past four o'clock the vagina was found distended with blood, a considerable quantity of which had been discharged from it. The os uteri felt soft and flabby, and was very wide. At fifteen minutes to five there was no improvement; blood still continued to escape from vagina, and uterus evinced no tendency to contract. The patient now began to get pale, and to exhibit other signs of the loss of blood. The child was put to the nipple, and almost immediately after this was done regular uterine contraction took place until five o'clock when the placenta and a large quantity of clotted blood were expelled from vagina. The uterus now felt firm, and was of its usual globular shape. A firm compress and bandage was applied. The case went on well.

* It is but justice to Dr. Hannay, of Glasgow, to state, that I was led to adopt the above mode of treatment, from having observed him use it in cases of relaxation of the uterus after the expulsion of the placenta. I have often had recourse to it in such instances with great success.

Some may be disposed to view the

treatment employed in these cases as being equally absurd with the ancient practice of applying ointments, &c. to the sword, for the cure of the wounds which it had inflicted. I would, however, observe, that there exists a most intimate and powerful sympathy between the uterus and mammæ. It is a well-known fact, that almost every female has her after-pains aggravated by the application of the child to the nipple. I have employed the ergot of rye in cases of the foregoing description with occasional advantage; but I have often thought that it sometimes caused irregular action of the uterus, particularly contraction of its neck, whilst the fundus remained relaxed.

In conclusion, I would strongly advise the application of the bandage previous to delivery, particularly in weakly constituted females. It not only procures them considerable relief, both of the severity and continuance of their sufferings during labour, but saves them the trouble and exertion of having it applied after delivery, when perhaps they are in a state of exhaustion. These are considerations which should recommend the practice to the notice of the profession, even if it did not afford the more important benefits of causing the expulsion of the placenta, and the prevention of hæmorrhage. No bad results can arise from its adoption; a circumstance which cannot be said of other modes recommended by obstetricians*. Whilst, by the plan here advised, we give support to the uterus, and thus greatly assist in preventing its relaxation, we can, at the same time, always ascertain the condition in which it exists, and are at once prepared to adopt the necessary means to meet any exigency which may occur.

* I recollect having heard a very excellent lecturer on obstetrics tell his pupils, that, if the placenta did not come away in twenty minutes, they ought to make traction at the cord; and if this did not succeed in twenty minutes, they should then introduce the hand into vagina, and irritate the os uteri; and if this failed in twenty minutes more, they were to bring the placenta away with the hand. To set limits in this manner to an operation of nature is most ridiculous; as well might we lay down the exact time which every uterus should be allowed to expel the child. I perfectly agree with Dr. Murphy respecting the inutility of abdominal friction, pulling at the cord, and irritating the os uteri with the fingers, in order to detach the placenta. I have seen much injury result from such proceedings. Amongst other evils, I have witnessed irregular or sand-glass contraction, with excessive hæmorrhage, taking place even in the hands of old and experienced accoucheurs.

ON THE OPERATION FOR SPINAL CURVATURE.

To the Editor of the Medical Gazette.

SIR,

HAVING seen an article in your contemporary of last week respecting a post-mortem examination of a case of lateral curvature of the spine, I am induced to trouble you with a few observations on the operation for these affections. Should you consider them worthy a place in your journal, you will be conferring an honour on,—sir,

Your obedient servant,

G. B. CHILDS.

Wood Street, Cheapside,
Dec. 18, 1841.

The operation for lateral curvature of the spine, like all others of a similar nature, is very liable to suffer abuse, not so much the fault of the operation, as of those who, ignorant of the pathological condition of the dorsal muscles, exercise no discrimination in selecting such cases as are eligible, and discarding others over which no earthly power has control.

It has been said, that the supporters of this operation ground their opinions “upon a fancied analogy between this and other distortions, such as clubbed-foot, contraction of the knee-joint, &c.” How far this observation is correct may be learnt from an attentive perusal of the works of those who have written on the subject.

To those unacquainted with the irregular appearances which the dorsal muscles frequently assume, such an analogy might be supposed to exist; but unfortunately for such a speculation, the character of cases most benefited by operation bear but a very faint resemblance to contractions of the ginglymoid joints.

This analogy, I presume, has been founded on the peculiar appearances presented by the sacro-costalis and longissimus-dorsi muscles. When extension is made, these muscles will be sometimes seen to form an elevated ridge along the course of the spine; and bands of muscular fibre will be starting up in situations where before they were scarcely visible.

These appearances are by no means

to be regarded as important in forming a decision on the class of muscles which should be divided, for it not unfrequently happens that the contracted muscles lie so concealed as to be with difficulty traced.

The importance, therefore, which has been attached to these appearances would be likely to mislead those who have not devoted much time to the consideration of these affections, and would favour an opinion, that the operation is admissible only in cases dependent on irregular muscular contraction; which is contrary to fact.

We will endeavour to see how far this "fancied analogy" will hold good, by instancing the pathological condition of the vertebral column, and the muscles surrounding it, in lateral curvature, presuming that contractions of the ginglymoid joints are invariably dependent on a loss of balance between the antagonizing power of muscles, consequent on a wasting only of one set of muscles; the others still retaining their natural and original powers of action.

All descriptions of curvature amenable to operation may be classed under two distinct heads.

1st. Those which are primarily and fundamentally dependent on increased muscular development.

2dly. Those in which the muscles are but passive agents in retaining the spine in its abnormal situation.

Under the first division may be included all those descriptions of curvature which have for their origin an increased activity of the trapezius and rhomboid muscles: the antagonizing power of those on the opposite side being overcome, the spine yields to this unequal power, and is gradually and forcibly drawn in a lateral direction. This description of curvature is induced by various causes, and is common amongst mechanics, and those whose occupations require a frequent and long-continued action of the muscles on one side. Many of the common acts of life, moreover, have a tendency to produce this curve, by exciting, in a slow and gradual manner, an unequal development of muscular power.

The existence of a second curve below this, in the opposite direction, is not a necessary consequence, nor in fact is it a general result, for as long as the sacro-costalis and longissimus-dorsi

muscles on either side retain their natural powers of action, no displacement of the lumbar vertebræ will ensue; and indeed it not unfrequently happens that these muscles, on the side in which the dorsal convexity is seen, acquire a considerable increase in bulk and power; thus assisting most materially to prevent any further deviation of the spinal column. A division of these muscles, therefore, would be destroying one of Nature's most salutary efforts.

But, further, should these muscles be divided, or should their power be inadequate to fulfil the indications mentioned, a marked difference will be observed in the state of the back; and Nature, in her endeavours to restore the lost equilibrium, induces another curve in the loins: the spine assuming somewhat the character of the Greek zeta. The sacro-costalis and longissimus-dorsi muscles, on the opposite side, have now nearly the whole burthen of supporting the trunk, and on them devolves the duty of flexion and extension of the spine: these muscles consequently undergo an increase of action, and become considerably augmented in bulk and power. A division of these muscles, therefore, can tend to no material good; but, on the contrary, must greatly aggravate the original mischief, by depriving, or, in a great measure, lessening the only support which the spine now possesses.

The cases over which the operation has the most decided control, are those which come under the second division of our subject, and in which the muscles are but passive agents in retaining the spine in its abnormal situation. These cases may be known by the general character they assume; the spine being somewhat in appearance like a hoop half bent, or semilunar in shape.

These affections may be induced without any active co-operation of the muscles, simply from superincumbent pressure, the undue application of weight on one side of the body, malpositions of sitting and standing, &c.

From any of the causes above mentioned a lateral inclination is given to the trunk, and the intervertebral substance becomes compressed on the side towards which the body is bent; but immediately the body is restored, and the trunk regains its perpendicular attitude, this pressure is removed, and

its elasticity returns. So long as the natural functions of this substance are not overtaken, or, in other words, so long as this pressure is temporary, and repeated only at certain intervals, no evil results will ensue; but let it be of continual occurrence, and protracted in its duration, and a partial absorption of the intervertebral substance will take place. For this partial loss of interposing substance nature accommodates herself, and derives support from the superincumbent weight by a closer approximation of the vertebræ on the affected side.

Such being the condition of the vertebral column, we are next led to consider its effect upon the fleshy mass that surrounds it. It is well known that the power of contraction possessed by muscles is in the ratio of the length of their fibres, and that the closer their points of attachments approximate to each other, the more feeble will be their powers of action; and by a continued application of the approximating force, they become less and less effective in their operation, and at length, having undergone derangement of structure, become permanently shortened.

This is precisely what takes place in the muscles under our present notice. By the lateral inclination which the spine takes, the sacro-costalis and longissimus-dorsi, below the convexity of the curve, have their sphere of action diminished by an approximation of their points of attachment; and in consequence of this there is a relaxation of their muscular fibre, which becomes more and more decisive the further the spine is removed from its normal situation. The muscles being now rendered inactive, undergo a derangement of structure, and are slowly converted into something of a tendinous character, strikingly analogous to that condition of muscles exhibited in old age. So decided are these changes in long-standing deformities, that on effecting their division, a thrilling sensation is conveyed to the hand, similar to that felt on cutting cartilage.

As may be learnt from the foregoing observations, it is only in the advanced stages of curvature that the operation is recommended. To attempt, at this period, a restoration of the displaced vertebræ, restrained as these are, by a firm unyielding structure, by "exer-

cise, sea-bathing, and tonics," would be contrary to reason; and those who advance opinions so glaringly ridiculous ought not to complain if such gain no respect. At this stage, a division of these muscles affords us the only chance of effecting an amelioration in the state of the back: followed up by a judicious and well-regulated employment of extension, the results obtained will, I am confident, more than realize our expectations. In the earlier stages of curvature, I am ready to admit that exercise, extension, friction, &c., will succeed in lessening considerably all cases of curvature, which, in a more advanced period, would become amenable to the operation; and on this account I would not recommend an employment of the knife with patients under adult age: but when the changes alluded to have taken place, the muscles are not in a condition to receive the beneficial impression which these agents would otherwise confer.

The cases of lateral curvature in which the operation is admissible, are probably not so frequently met with as those which are dependent on organic derangement of the osseous structure; but, fortunately, the physical appearances alone are sufficiently characteristic to enable us to give them the classification required. With these latter cases, I know of no plan of treatment we can with confidence recommend.

In those characters of curvature which come under the first division of our subject, I should anticipate the most favourable results from exercise of the muscles situated on the concave side of the curve, whilst those on the opposite side have their sphere of action diminished: but there are circumstances under which such a mode of treatment would not be available, the time required being of too protracted a duration. Such cases are most frequent amongst mechanics, and those whose situations in life require manual labour for their daily sustenance: with these, time is everything, and the operation affords them the only prospect of a speedy relief.

CONTRIBUTIONS
TOWARDS AN
ESSAY ON STRABISMUS.

BY C. RADCLYFFE HALL,
Manchester.

(For the London Medical Gazette.)

[Continued from p. 582.]

PART II.

Definition of Strabismus; pathology; varieties; diagnosis and prognosis in reference to the operation.

Definition.—Strabismus may be defined, a morbid consent of action between the muscles of one eye-ball and those of the other; or, an incapability of directing both optic axes towards the same point at the same time. It is not correct to define squinting as a want of parallelism in the eyes, since these are naturally out of parallelism when converged for near objects. Fixed distortion of the eye-ball constitutes luscitas.

Pathology.—The exciting cause of strabismus is either an affection of the sense of vision, or of the agents which cause the movements of the eyeball. The proximate cause is, in every case, an undue action of one or more of the orbital muscles.

The remote causes of strabismus may be classed as, 1. Those which act primarily through the nerves of the orbital muscles, or reside in the muscles themselves, producing

a. Spasm of the muscle which causes the distortion, as in squint from intestinal irritation.

b. Imperfect palsy, leading, perhaps, to wasting of the muscle which, by yielding, permits its antagonist to distort the eye, as in strabismus from congestion or inflammation of the brain, blows on the head, &c.

c. The habitual and voluntary over-exertion of one muscle, as in strabismus from imitation, from a habit of looking at any small defect near the eye, &c.

d. Hypertrophy of a muscle dragging the eye out of relation with its fellow.

e. Hypertrophy of the muscles of the straight eye, which, by causing over-action of one of the recti of the other weaker eye, produces a squint.

2. Those which act primarily through the nerves of common sensation.

Diseases in which the extremities of the fifth nerve are rendered morbidly sensitive to the influence of light; as in strumous ophthalmia, irritable ulcer on the cornea, &c.

3. Those which act primarily by affecting vision.

a. Affections of the refracting media of the eye; as, imperfect cataract, corneal opacity, effects of wounds of the eye, &c.

b. Affections of the retina.

c. Affections of the optic nerve in any part of its course.

d. Affections of the censorium which prevent the impressions from one eye, though correctly conveyed, from being as accurately recognised as those of the other.

The three last conditions merge in the one subject of amaurosis; and hence may be exemplified, by the cases stated, to have been caused by that affection.

The possible causes are thus individualized because any one of them *might*, and occasionally *does*, prove sufficient to excite the defect. But in many cases, several of the causes may be combined in the production of the result. In strumous ophthalmia, for instance, the retina, as well as the conjunctiva, is morbidly sensitive to light; and hence the upward and inward direction of the eye is from the irritation both of the fifth nerve (common sensation), and of the retina (special sensation). And in hydrocephalus, not only is there muscular palsy, but blindness, complete or otherwise, at the stage when strabismus occurs.

In the arrangement of the motor nerves of the orbital muscles, we have an especial provision for facilitating that beautiful harmony of movement which we observe between the eyes, when both are perfectly healthy. Yet this provision seems only to favour, not to enforce, the accurate combination of actions which is necessary for directing the optic axes towards a common object. Observe the occasional want of coincidence in the direction of the eyes of the new-born infant, whose mind, incapable as yet of appreciating correct impressions, has still to learn how best to control the organs which convey them. Again, the want of command over the movements of the eye-balls in adults who have been blind from infancy or from birth, proves that

the ocular muscles are not exempt from the influence of habit. In such cases, not only is there a deficiency of voluntary power over each individual muscle, but a want of accuracy in so combining the action of different muscles of the two eyeballs as to produce that accordance in direction which is instantaneously and unerringly effected in the healthy person.

CASE.—A youth, æt. 17, became perfectly blind from small-pox when he was three months old. Both corneæ are opaque. He cannot perceive a glimmer of light. The eyeballs are constantly in gentle oscillatory motion. On asking him to look at his nose, whilst one eye is inverted by starts and gradually, the other is everted. He is incapable of fully converging both at the same time, or of maintaining them long in any given position. The right is the eye which he generally inverts; as if volition acted more readily on this than on the other organ; and the inversion is not direct, but either downwards and inwards, or upwards and inwards, thus implicating *two* rather than *one* of the recti. He *has* the power of *directly inverting* either eye, but it is only for a moment, and seems to require considerable voluntary effort. If one eye is directed outwards, the other undergoes a corresponding inversion, exactly as in healthy eyes, except with regard to the kind of motion, which is here effected by a series of twitches. Thus the consent which is naturally the easiest seems to be that between *adduction* of one eye, and *abduction* of the other.

With a healthy person, place the finger so that it can be just seen by the right eye when extremely everted; bring the finger towards the front; as the *right* eye is inverted to follow the object, the *left* is equally everted, until the finger is in such a position as to be *visible* to the left eye, when that ceases to be everted, and the two eyes converged towards the object. Bring the object, now in the median line, nearer to the eyes, and they are both equally inverted, in order to direct the optic axes to the same point. Here the consent is first between the *adductor* of the right, and the *abductor* of the left eye, so long as vision is confined to the former; but no sooner does the retina of the left become impressed with the object of attention than abduction in-

stantly ceases, and the rectus internus steadies or inverts the eyeball as vision may require.

Direct a person to look at his nose; both eyes are equally inverted. Close the left eye, and repeat the direction; the right eye is inverted as before, but on carefully lifting the eyelid, the other is found everted.

These facts appear to prove that, in the normal state, the converging associations of the eyes are principally governed by the *sense of sight*, and are not the *necessary* result of any anatomical arrangement. That a man has not usually the power of preventing one eye from moving in accordance with the other, may be owing entirely to habit, and is only one of many examples of the influence of this agent over muscular actions.

I assume, then, that the reason why this habit is instinctively acquired, is merely because it places both eyes in the relative position best adapted for correct vision.

The consensual motions all conduce to one end, viz., that of directing together the centres of vision towards the same point. The spot marked out by its delicate organization, and proved by experience, to be the point of most acute vision, is situated in the vertex of the retina, and has been erroneously termed the "foramen" of Soëmmering.

So long as this point is equally susceptible, and the muscles equally active in each eye, *cæteris paribus*, there can be no squinting. But should one centre convey a less vivid impression than the other, or perhaps, on the other hand, should it be morbidly over-sensitive, to prevent confusion of vision, the faulty organ assumes a new direction. The rays of light, however, still enter that eye, and by impinging most freely upon the portion of retina directly opposite to the inlet, gradually induce a higher degree of susceptibility in *that* spot than in the rest of the retina; including even, in some cases, what originally was the centre of most acute vision. In such a case, we have a new point of acute sight acquired, and distinct from the natural one, which, from constant inaction, has lost its original pre-eminence in sensibility. The condition of the retina which gave rise to the distortion may have subsided; and yet, from the mal-association thus excited, the squint remains.

Here the vertex of the retina may be the *most sensitive*, but still *it is not the centre of vision*, since another point of the retina is that which is invariably directed in accordance with the retinal centre of the other eye. If impaired sensibility of the vertex is the cause of strabismus, the new centre of vision which results becomes more sensitive than any other part of the retina; but not so when the primary cause of distortion is quite independent of any deficiency of visual power. Hence, notwithstanding the vertex of the distorted eye is still the most sensitive part, as proved by the straight direction being that assumed for most distinct vision, when the faulty organ alone is used, there is, nevertheless, another point of the retina which becomes "identical" with the vertex of the good eye; and this spot may be considered as the usual centre of vision for the strabismic eye, though in reality *less sensitive* than the natural centre of acute vision. Thus every strabismic eye acquires a *new* centre of vision, whether that become the most sensitive part, or, as is more common, merely from habit, corresponds in function with the normal centre of the better organ.

In strabismus, the motions of the eyes generally harmonize as exactly as in health; but the harmony is such as to cause the acquired centre of the squinting eye to *accord in direction* with the natural and true centre of the unaffected eye; and so distortion results.

CASE.—A young man had obliteration of the pupil of the right eye, from adhesion of the iris to the outer part of the cornea, which was opaque. Both eyes were straight, and the left eye was sound. At his own request, I made an artificial pupil in the right eye by excision at the nasal side.

A year after the operation: the aperture is nearly round, and of the medium size of the other pupil. There is slight divergent squint of the right eye, just sufficient to bring the vertex of the retina opposite to the pupillary aperture, so as to correspond with the straight direction of the other eye. Vision is single, though for some weeks after interference with the eye it was confused.

By varying the situation of an artificial pupil any variety of squint may

be produced, provided the retina be sound. In such cases, the original centre of the retina is brought into the axis of the newly-formed pupil, whilst in ordinary cases of strabismus, it is removed out of the axis of vision.

If we examine the commonest case of convergent strabismus, the right eye is directed straight forwards; the left is inverted. If the right is voluntarily directed inwards, the left (squinting) eye moves outwards; if the right is extremely everted, the left is extremely inverted. Close the sound eye, and the other assumes a straight direction, or at least a less inverted one. The motive, if I may so express myself, for the squint being thus temporarily suspended, the internal rectus is relaxed, and its antagonist maintains the eye in a straight position. But with this action of the outer rectus of the affected eye there is the consensual contraction of the rectus internus of the other, for on raising its eyelid the right eye is found to be inverted. Hence, instead of ascribing the defect to an undue mutual convergence, I conceive it will be more correct to consider single convergent strabismus as proceeding from an excess of the consent which naturally exists between the adducting and the abducting muscles of the two eyeballs.

If it be true that the direction of the eyes in health is in a great measure governed by the sense of vision, any cause which prevents vision from being most correct with the *natural* accordance, may occasion a *new association* between the eyes by turning the faulty organ as much as possible out of the way. This I believe to be the most common mode of origin of strabismus. Why the eye is usually inverted rather than everted, is probably owing in part to the greater ease with which inversion can be maintained, from the number of muscles capable of producing it, but more especially to the smaller quantity of light which can enter the inverted as compared with the everted eye.

There are cases of strabismus in which the visual power of both eyes is equal, and the focal distances the same. In every instance that I have seen, the eyes have been perfectly healthy, the vision good, and the squint convergent and alternating; either eye being inverted, according as one or the other happened first to catch sight of the ob-

ject of attention. This appears to be the simplest case to reason on.

If the right eye is straight, it is so maintained by the rectus externus acting in opposition to the adducting muscles of the same eye, and the rectus internus of the left eye contracts contemporaneously with it. The affection is functional, the muscles being found perfectly healthy, and is generally cured equally well by one operation on either eye. There are exceptions to this, however; in which one operation only converts what was an alternating squint of both eyes into a convergent squint of one. Here, the rectus externus of the eye operated upon, and the adducting muscles of the other, maintain the defect. A second operation on the other eye is always successful.

If the vertex of the retina is by morbid change rendered less sensible to light than the rest of the nervous expansion, strabismus results. If the inner part of the retina be most sensible, or even if it be equally sensible with the remainder, the strabismus is convergent; if the outer part, divergent. Rare exceptions occur, in which, though the outer portion of retina appears most sensitive, yet the squint is convergent. (Part 1st, Cases xv. xix.) If the whole of the retina is so much diseased that the sensations which it still excites only serve to obscure those of the sounder eye, convergent squint usually results.

Nothing occurs to prove the influence of the *sense of sight* in producing strabismus, and governing the variety presented, more than the rare and undoubted cases in which the muscles of the squinting eye are unaltered, whilst some of those of the straight eye are hypertrophied. In these instances, the visual power of the straight eye *very much* exceeds that of the inverted one.

To revert to the case of Mary Crawford, formerly given*. The hypertrophied rectus internus of the right eye would generally have caused inversion of the *left* eye, because the power of vision was *very much weaker* in that than in the other. To maintain the good eye straight, in opposition to the hypertrophied rectus internus, the *abductor* muscle was obliged to act energetically, and, by virtue of the natural consent so often referred to, this excited the action of the rectus internus of the other eye.

Varieties of Strabismus.—According as one or both eyes are affected, strabismus is *single* or *double*. Inasmuch as the mal-association must implicate the muscles of both eyes in every case, and as either eye can be made to be distorted at pleasure, it has been considered incorrect ever to speak of strabismus as single. Still, as pointing out the organ which is least used for the purposes of vision, and signifying nothing in reference to pathology, it is practically convenient to retain the distinction between single and double strabismus. Case xiii. is a good example of the latter variety.

According to the direction of the squinting eye the strabismus is *convergent* or *divergent*, *deorsum-vergent* or *sursum-vergent*, and may also have any degree of obliquity between these; thus, the upward and inward, and downward and outward distortion, are not uncommon.

Strabismus, according to its persistence, is *permanent*, *temporary*, *alternating*, or *intermittent*. I believe I have enumerated these in the order of their frequency.

Case xxii. illustrates the temporary squint, which is also not unfrequently met with in delicate girls, and in children during an attack of cerebral irritation. Cases xxii. and xxiii. are good examples of the intermittent kind*. This variety of squint is characterised by the frequency of its recurrence in a short space of time. It evidently depends upon momentary spasm of the muscle.

Diagnosis and Prognosis in reference to the Operation.—Is an operation at all advisable? If so, on what eye? The first having failed, on which eye shall we perform a second operation? or, Is a second operation desirable at all? These are the questions to be solved in practice.

Every case, in which the visual power of the affected eye is but little impaired, is fitted for the operation, except the temporary and intermittent varieties, or where there exists some irremediable cause for imperfect vision with the normal direction, as in dense partial opacity of the cornea, artificial pupil, &c.

Provided the retina and refracting media are sound, and the brain healthy, however extreme the distortion, by one or more operations it may be rectified.

* MEDICAL GAZETTE for Jan. 1841, p. 647.

* Part First.

If the vision of the affected eye be very deficient, one operation will rarely succeed; it may be followed by either the return of the former, or the occurrence of a new distortion: thus, a previously convergent squint may return, or the eye may become divergent. The somewhat rare cases, in which, on directing the patient to close the straight eye, and to look earnestly at an object with the other, the previously inverted eye becomes rather everted, are unfavourable; since in them there is usually some defect in the retina which prevents the vertex from regaining its normal acuteness of vision. It may be laid down as an axiom, that if the natural centre of acute vision has become so far impaired that it never re-acquires its original pre-eminence in sensibility, as it can never again correspond in function with its analogue in the other eye, no operation will prove more than a temporary remedy for the squint; there will be a return of distortion in some direction, though seldom to the original extent. But it is very difficult so to measure the amount of defective vision as to anticipate with certainty the result. The primary cause may afford some assistance. The most unfavourable cases are commonly those which have resulted from strumous ophthalmia or small-pox, because in many of them, probably, the retina is radically affected. On the other hand, when the deficiency of visual power only proceeds from, and depends upon, the distortion,—as in strabismus from imitation, &c.—the effect of the operation will be more favourable.

It is impossible to predict that one operation will suffice in any but the slight cases of strabismus; but, in by far the majority, it may safely be promised that one *or two* operations will remove, or materially diminish, the defect.

For the squint, depending upon hydrocephalus or abdominal disease; for the eversion of the eyeball, in paralysis of the third nerve (*luscitas*); and for the distortion which often follows the formation of an artificial pupil, it need scarcely be observed, the operation is useless.

Luscitas, depending upon a matting together of the orbital textures as the result of inflammation, is not beyond the chance of relief from the operation*.

Strabismus from cataract may sometimes, by first removing the opacity of the lens, and afterwards rectifying the direction of the eye (Cases xxxi. and xxxii. Part First).

If the adducting muscle be found hypertrophied, the eye is more likely than usual to become everted. In such a case division of the outer rectus will generally succeed. But when, immediately and for some time after the operation, the eye is straight, and gradually becomes everted subsequently, vision not improving, a second operation will seldom prove of service. If the operation be performed on each eye, and both are at first straight, but, after some time, one becomes everted, the prospect of ultimate success from division of the rectus externus is very slight. After division of the abductor, the superior oblique will distort the eye downwards and outwards. Of the effect of cutting through the muscle under such circumstances, (for instance, in Case xxv. Part First,) I have had no experience; but as the muscle acts, so to express myself, at the command of the retina, I should not expect any permanent good from the procedure.

The causes of relapse are two: either the motor nerves have been so long habituated to a wrong association of action that they cannot readily be prevented from so acting, or the visual power of the eye is so feeble with the axis, that it necessitates distortion. Operating on both eyes will remedy the former, but not permanently cure the latter class of cases of relapse. But as we can never ascertain the distinction beforehand, and as, by an operation on the second eye, both are usually rendered equally prominent, it is proper to perform an operation on the second eye in all cases of relapse, whether the distortion affect one or the other eye. Eversion, succeeding to the operation for convergent squint, can hardly be considered as a *relapse*.

I believe that division of the rectus externus of the straight eye would restore the inverted one to its proper axis; but, from the superior power of the inverting muscles, the experiment might cause inversion of the former. Division of the tendon of the rectus internus of the eyes, when both are quite free from distortion and every other disease, does not necessarily occasion squinting*. I hazarded this as

* MEDICAL GAZETTE for Jan. 1841, p. 650.

* MEDICAL GAZETTE, 1841, p. 641.

an opinion in a former paper, and have since proved it to be the fact.

The importance of endeavouring, by use, to increase the visual power of the affected eye immediately after the operation, is very great; and were eye-practice after the operation more generally adopted, cases of relapse would be less frequent.

For the details of what has been called "Orthophthalmic practice," and for a condensation of much information on the subject of strabismus in general, I may refer to the pamphlet which Dr. Mackenzie has recently published.

[To be continued.]

MEDICAL GAZETTE.

Friday, January 14, 1842.

"Licet omnibus, licet etiam mihi, dignitatem Artis Medice tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO

ANOTHER PLAN OF MEDICAL REFORM.

MORE than two years have now elapsed since we commented on Mr. Carmichael's speech upon Medical Reform, at the great meeting of the Physicians and Surgeons of Ireland*. This address was clear, lively, and energetic; and, though we felt compelled to differ from some of his conclusions, we were by no means disposed to confound his agreeable harangue with the dismal dronings on the same subject too often heard on this side of the water. Mr. Carmichael's propositions, modified by time and discussion, have lately made their appearance in the form of a pamphlet†; and, though we doubt if it will become the ground-work of any legislative measure, it is certainly better written than most of its contemporaries. The smartness, however, which is the

sauce piquante of a pamphlet, has led Mr. Carmichael into sundry mistatements or exaggerations; and when he talks "of the medical profession, which, in its present state, is, I venture to assert, more frequently the source of mischief than of benefit to society," he will carry few readers with him, lay or medical. In spite, he says, of these islands having given birth to the ablest practitioners in the world, the unorganized state of the profession is a subject of ridicule to strangers who pass through the land. In confirmation of this remark, he cites a ludicrous case in his appendix. A licentiate of the Apothecaries' Company, at Manchester, stuck up a board, on which he not only promised to draw teeth for a shilling, and attend labours for half-a-crown, but announced that he sold fish sauces, bears' grease, Congreve matches, and Warren's blacking! Mr. Carmichael saw this himself in 1839.

The stringent measures proposed by Mr. Carmichael and other reformers would, no doubt, tend to diminish the number of these unsightly boards; make the entrance into the profession very difficult; and its new members will be persons rarely driven, either by necessity or inclination, to so heterogeneous a mixture of Harvey's physiology with Harvey's sauce. But every impartial person will allow, that a sudden and rigid increase of the difficulty of medical examinations would have a tendency to renew the same confusion of professions in a different shape. The apothecary would no longer condescend to sell matches, but the match-vendor would presume to act as an apothecary.

The sum and substance of what Mr. Carmichael requires, is as follows:—

"1st—A good preliminary education, such as is required of those who enter into the other learned professions.

"2ndly—A good *practical* profes-

* MEDICAL GAZETTE, June 15, 22, 29, 1839.

† Plan of Medical Reform and Reorganization of the Profession, without subverting the existing Colleges of Physic and Surgery, addressed to the Right Hon. Sir Robert Peel, Bart. By Richard Carmichael, M.R.I.A. &c. Dublin, London, and Edinburgh, 1841.

sional education, to be tested by a scrutinizing *demonstrative* examination.

“3rdly—Equality of qualification in each great division of the United Kingdom.

“4thly—The union of physic and surgery, at least in education.

“5thly—The separation of the practice of pharmacy from the practice of medicine, as far as the interests and usages of society may permit.”

Few persons would be inclined to gainsay Mr. Carmichael's first demand; at any rate, theoretically. It is a truth too obvious to need demonstration, that if practitioners of physic are to maintain a respectable position in society, they must have something to show besides professional acquirements. How *much* can be safely demanded, in the present condition of our average schools, is a delicate question, the discussion of which would require a pamphlet to itself. An ingenious physician, whom Mr. Carmichael quotes in his appendix, thinks that medical students should receive a complete general education. Among other things they should learn is “Psychology, or the Philosophy of Mind.” He not only believes in Milton's assertion, that by a better method of study, young men might learn more Greek and Latin in one year than they did in seven years in his time, but he believes “that the system has not been at all improved since Milton's day, at least in the public schools and Universities.” We, on the contrary, are perfectly convinced that immense progress has been made since Milton's time in the art of teaching the classic languages; and, if anywhere, assuredly in those public schools and Universities which are models of all inferior seminaries. A moderate acquaintance with English society may suffice to convince any one that no recommendation of a private school is more effective than its following the system of teaching the classics which is

pursued at our great public schools; nor can any school, public or private, more certainly win favour, than by carrying off prizes and fellowships at the Universities—and this is, of course, to be done by following the same method of instruction. Or, should any scholar be dissatisfied with the nature of this proof, let him turn to Milton's Greek compositions, and compare them with the average attempts of the same kind put forth in the present day. The boundless superiority of the latter will immediately be manifest; that is to say, the appreciation of classic expression has improved so much that, in this branch, the mediocre writer of the 19th century is far superior to the genius of the 17th.

The next improvement is, that the examination should be made practical; a point in which, we apprehend, few will be found to dissent from Mr. Carmichael. But when he inveighs against grinders, and calls their trade a mischievous one, he seems to confound causes and effects. If the instruction given by grinders has been slight, it is because the examination which it was intended to precede was superficial. The rehearsal rises with the drama which is to follow it; and, as examinations improve, the grinder will be metamorphosed into a private tutor. If half a loaf is better than no bread, even facts crammed into a reluctant pupil are better than the total ignorance which they succeeded.

The next point is the equality of qualifications throughout the United Kingdom. This means, with Mr. Carmichael, the one-faculty scheme, a project which would ensure the rejection of any bill into which it should be introduced. The minor alteration of allowing the practitioner who has received his licence in one part of these islands to exercise his profession in

any other, is perfectly reasonable, and might be carried, if advocated by any man in whom Parliament has confidence, provided he, at the same time, put an extinguisher on some of those lesser academies which coin their honours so profusely. Mr. Carmichael complains that Irish and Scotch practitioners cannot practise in London without being subjected to severe penalties, at the mercy of the College of Physicians. Now, the penalty is a slight one, and is never levied. To go up to the College for examination is almost compulsory, not by force of law, but by force of public opinion. Every physician of tact knows that if he does not enrol himself on the lists of this honoured body, he might as well leave his brass plate on his door, and betake himself to practise in Australia.

But the most singular passage in the pamphlet immediately follows. "So narrowed," says Mr. Carmichael, "is the monopoly of this learned corporation, that no man is admissible to their fellowship except he has graduated in arts and medicine in either of the universities of Oxford or Cambridge; as if all education, preliminary and professional, could only be acquired at one or other of these two universities."

This is curious enough *per se*; it is strange that such a man as Mr. Carmichael, a professed speaker on medical reform, should not know that the College has totally changed its system. But how much more curious does the assertion become, when we find it flatly contradicted twenty pages afterwards, and have no means of conciliating page 8 with page 29! In the latter place he quotes, with approbation, a report which says, "The College of Physicians of London has begun the adoption of a more liberal policy than has hitherto marked its history. The exclusive privileges of the English universities have been abolished. The

College has been thrown open to its members."

Goldsmith tells us of a member of his Authors' Club who could draw up an answer to any book in twenty-four hours. Modern writers would have deprived this author of his bread, as they have taken to answering themselves.

It is scarcely necessary to touch upon the fourth demand; but the fifth and last requires a few words. Its object is the separation of pharmacy from the practice of physic. Yet general practice, says Mr. Carmichael, is so rooted in Great Britain, that it would be a folly to attempt to suppress it, "notwithstanding the injury, which, in its present state, it so obviously inflicts upon society."

To remedy this state of things, Mr. Carmichael proposes that all future general practitioners shall be entitled to charge for attendance, but not for medicine; and that they shall be fined or imprisoned if they send out medicines not prepared by themselves, or some licensed apothecary. The object of this last enactment is to prevent the compounding of medicines by ill-qualified assistants. Its extreme severity scarcely would allow it to be carried; or, if carried, to be executed. The qualifications of assistants might easily be raised without abolishing the order. Mr. Carmichael proposes to allow five shillings a visit (including medicine); and in the case of distant patients, a shilling (or perhaps two), additional per mile.

This would do very well for genteel practice; but men with large families and small incomes would be driven to seek a doctor who did not charge according to Act of Parliament. We shall possibly return to this subject on a future occasion.

INVESTIGATION REGARDING “ SUBJECTS.”

THERE seems to be no end to the “investigations,” which are required into the working of the Anatomy Bill. We have for some time been aware that another of these inquiries was in progress; but probably should have postponed making any reference to it, had not the daily press taken up the subject. Under these circumstances delicacy no longer forbids us to lay the facts before our readers.

Some time ago the bodies of several paupers were taken from the St. Marylebone workhouse, and employed for anatomical purposes in the usual manner. According to our information, the entire number disposed of on the occasion alluded to was eight, while only six were entered on the “Book of Deaths” kept by the master of the workhouse; yet eight, as we have just said, were entered in the inspector’s returns, and these were mostly sent, in the first instance, to University College, and, such as were not required there, were afterwards distributed among the other Schools. Their distribution, however, is not the point which at present concerns us, but this—that although, according to the smaller computation, six bodies had been taken from the Marylebone workhouse, yet an examination of the register exhibited no sign of any burial ever having taken place; and the attention of the Board of Directors and Guardians having been arrested by this omission, the subject was brought before the Vestry, and a considerable degree of excitement was the result. Inquiries were instituted on the subject; and from these it appeared, that there is a burial-ground called “Globe Fields” in the parish of Stepney, Mile-End, to which place of interment all the bodies alluded to had been carried. Now the allegation is that the cemetery in question is not consecrated; but

that thither, nevertheless, the bodies of all, whether of the Church of England or otherwise, had been taken.

The funeral service was performed by Mr. Cauch, a preacher who officiates for Mr. Tagg, the proprietor of the burial-place; and we understand that the ceremonies of the Church of England are those generally adhered to.

It is said that, during a period of seventeen months, viz. from Feb. 1840 to July 1841, above 250 bodies were thus interred in Globe Fields burial-ground, and a large amount of fees paid by the anatomical teachers—a sum, indeed, which, if we take the minimum of fifty shillings per body, comes to no less than £635. But we believe the actual sum to be considerably greater than we have just stated, because we know that the teachers of anatomy are sometimes charged £3, and even £4, by the persons who remove the bodies from the schools after the dissection has been completed.

Representations to the above effect having been made at the Home Office, an investigation has been instituted, and Mr. J. H. Green and Mr. Newman Rogers are now employed in examining evidence on both sides of the question:—we may therefore hope for a fair and satisfactory settlement of the points at issue.

CAUSES OF DEATH IN ENGLAND AND WALES.

BEING EXTRACTS FROM MR. FARR’S
LETTER TO THE REGISTRAR-
GENERAL.

(Concluded from p. 604.)

Murders.—The murders which have been registered and noted in the abstracts, on the authority of the verdicts of coroners’ juries, amounted in two years to 156 (males 103, females 53.) The proportion to the population is 5 in a million annually, or 1 in 200,000. Of 148 persons murdered, whose ages were abstracted, 78 were aged 20 and upwards. If we assume that half of the

population is above 20 years of age, about 5·3 in a million adults were murdered annually. The number of cases in which verdicts of murder were brought in, was above the average in the south western counties, in Lancashire and Cheshire, the south eastern counties, the north midland counties, and the metropolis. If infants be excluded, the greatest proportion of murders occurred in Lancashire and Cheshire; the smallest proportion in Essex, Suffolk, and Norfolk.

Lightning.—25 persons (18 males, and 7 females) were killed by lightning in 1838, and 18 (14 males, and 4 females) in 1839. In the last two quarters of 1837, *fifteen*; of 1838, *fourteen*; and of 1839, only *two* deaths were caused by lightning. In the two years (1838—9) 1 of the deaths occurred in May, 26 in June, 8 in July, 4 in August, 2 in September, and 2 in November. *Six* was the greatest number killed in one storm, which happened on the 18th of June, 1839; and it is a curious coincidence that *four* persons were struck dead by lightning on the 18th of June, 1838.

The danger of being struck by lightning is comparatively not very great; for only 22 are killed by this cause in the year, while 29 die other violent deaths *daily*, exclusive of suicides. Of a million men at the age when they are most exposed (30—50), not more than 4 were struck dead; while the proportion of women was less (1·5). During the thunderstorm, however, the danger of death by lightning is probably twice as great as the danger at that time from all the other causes of violent death put together. Franklin wrote popular directions as to the best means of protection in storms, but it appears from M. Arago's interesting paper, that natural philosophers are not agreed altogether in admitting their propriety. Unless there is something in the structure or dress of men which marks them out in a special manner as victims of the lightning, it may be inferred from the facts in the registers that people are safest in-doors when it lightens; and that women and children are placed in the circumstances where there is least danger.

Sudden deaths—Inquests.—Coroners' inquests are held in nearly all violent deaths; and in some sudden deaths, or deaths which appear to the coroner to require investigation. Where the "cause of death" was stated in the verdicts registered, the latter cases were referred to the proper heads in the Abstracts; inquests in which the "cause of death" was not ascertained, but the death was said to be "natural," or "by visitation of God," were classed under the head "Sudden Deaths." This must, therefore, be understood to imply in the table "cases in which inquests were held, but in which the cause of death was not

ascertained." The numbers were as follows in the two years 1838 and 1839.

Sudden Deaths—or Cases in which Inquests were held, and in which the Cause of Death was not ascertained.

Years.	Males.	Females.	Total.
1838	1840	1172	3012
1839	2257	1439	3696
Total	4097	2611	6708

Sudden deaths of this class are more frequent among males than females. The ratio is nearly as 16 to 10. About 16 happen in winter to 10 in summer.

The cause of nearly 2 in 3 sudden deaths is not stated in the verdicts. Apoplexy was said to be the cause of 53 deaths, diseases of the heart and arteries of 27, exclusive of 10 ascribed to a rupture of a blood-vessel. Fits and convulsions come next in the order of frequency. Several of the sudden deaths happened in the course of chronic diseases, but the cases of consumption occurred principally among criminals in the prisons, and were not sudden deaths. In 1087 other cases which occurred in the metropolis (1839), the deaths were ascribed to apoplexy 84 times, convulsions 17 times, epilepsy 10 times, heart disease 36 times, and rupture of a blood-vessel 36 times. The verdicts, "visitation of God," or "natural death," were returned 632 times in the 1087 inquests, not comprising violent deaths.

Although an absolute rule has never been laid down, it is generally understood that inquests are held not only where violence is suspected, but in diseases which, from the nature of their symptoms, are liable to be confounded with deaths by violence. Nearly all the deaths by personal violence are immediate; and poisoning is usually recognized by the rapidity with which the symptoms come on after a meal, or after the poison has been swallowed. The law, therefore, points out those who die suddenly (*subitos mortuos*) to the especial attention of coroners. Many deaths under the following heads in 1839 would belong to this class, having often occurred either suddenly or with symptoms caused by the respective diseases, not easily distinguished from the symptoms of death by poison, or the many forms of personal violence:—apoplexy 5293, convulsions 25,408, epilepsy 1186, aneurism 102, ileus or colic 637, intussusception 112, ulceration of intestines 347, hæmatemesis 98, hæmorrhage 1046, and delirium tremens 206; the unclassified cases of sudden death in which inquests were held 3696, some cases of heart disease 3551, and

childbed 2915. Hydrophobia 15, tetanus 122, intemperance 218, and starvation 130, properly belong to the violent deaths. Persons labouring under sickness require peculiar care, and whenever there is proof that this has been maliciously denied, the death requires an inquest, and may be properly referred to deaths by violence.

No definition of the sense in which "sudden death" is practically understood by the coroners has been given; nor can we describe in any precise terms the class of cases, exclusive of violent deaths, which are comprised in the abstracts of inquests. The writers even on medical jurisprudence do not state with any strictness what they mean by sudden deaths—whether it be death in 10 minutes, 10 hours, or 10 days; but it is generally applied to cases where persons, previously able to attend to business, are suddenly deprived of consciousness, and expire in less than 24 hours. Understood in this sense, it is the popular opinion that "sudden death" is the result of apoplexy, when it is not produced by violence. The recent researches of M. Devergie prove that the opinion is a popular error; and if M. Devergie's theory be rejected, his facts prove satisfactorily that the "apoplectic theory" rests on no solid grounds. Many of the verdicts which ascribe "sudden death" to apoplexy must be erroneous.

M. Devergie, who is Medical Director of the *Morgue*, to which all bodies found dead in Paris are conveyed, and who had better opportunities for investigating the subject than any other person, refers sudden death, after Bichat, to the three principal organs—the lungs, brain, and heart. In death by the lungs, the circulation is stopped primarily in those organs; the pulmonary artery, the right cavities of the heart, and the *venæ cavæ*, are gorged with blood. The pulmonary veins, the left cavities of the heart, and the aorta, are empty, or contain an infinitely small portion of blood. In death by the brain (apoplexy), the respiration is embarrassed, the lungs congested, and then the heart ceases to beat; the meningeal veins are gorged with blood; the lungs contain a considerable quantity; there is blood in both sides of the heart, but most in the right cavities. If death begin at the heart (*syncope*, fainting), its action ceasing all at once, the cavities are full on both sides, not as they are in the state of accumulation, but as in the ordinary state of the circulation; there is blood in the arteries and veins. Neither the lungs nor the brain are congested. This is a brief summary of the results of M. Devergie's researches. The term congestion is vague, and by no means unobjectionable; but it is often all that is found in violent deaths by asphyxia, and it has something like a specific meaning

in M. Devergie's essay; who reports several cases at length, which medical witnesses will do well to consult.

The following is a summary of 40 cases of sudden death, carefully examined by the Medical Director of the *Morgue*:—

Apoplexy, with a clot in the annular protuberance, 1; meningeal apoplexy, 3; serous apoplexy and pulmonary congestion, 2; congestion of the brain and spinal marrow, 3; pulmonary congestion, 12; pulmonary and cerebral congestion, 12; hæmatemesis, 2; syncope, 3; rupture of the heart, 1; rupture of the pulmonary artery, 1.

The coroner's inquest was founded at a time when homicide constituted a common cause of death. It must, from its popular nature, have contributed not only to the detection and repression of crime, but to the general abhorrence of assassination, and the tender regard for human life in all its forms, which pervades the minds of the people of this country. The principle of the deodand, too, is full of wisdom; as it recognizes the fact, that accidental death may be indirectly caused, and by inflicting fines on the owners of dangerous animals, machinery, and other property, exercises a salutary check upon responsible parties. The Act, which directed inquests to be held upon all criminals who died in the prisons, was an useful extension of the institution; but of less practical importance than the clause in the Registration Act,—which provides, that "in every case in which an inquest shall be held on any dead body, the Jury shall *inquire of the particulars herein required to be registered* concerning the death, and the coroner shall inform the Registrar of the finding of the jury, and the Registrar shall make the entry accordingly." One of the particulars "required to be registered," is "the *cause of death*." The Act left to the proper parties—the coroners—the discretion of holding the inquest, but rendered it imperative on the jury, whenever it was summoned to sit on a body, to inquire into the particulars of the "cause of death." The legislature thus provided for the full investigation of all the cases of death, which, in the judgment of the coroners, required inquests to be held, or were liable in any way to be confounded with deaths by poisoning or violence.

All writers upon Medical Jurisprudence agree that the causes of sudden deaths can, in general, only be ascertained by an inspection of the principal springs of life. It will be sufficient to quote three passages to this effect from the classical works of Devergie, Beck, and Christison, the most recent writers, and the best authorities, on the subject:—

"The physical cause of sudden death can rarely be discovered from the information

obtained relative to the circumstances which preceded, accompanied, or followed the death. From the autopsy alone positive notions can be derived; the observation of the phenomena which accompanied death, and their recital, being always more or less inexact."—Alph. Devergie, Méd. Légale, tome i. p. 66.

"At the present day physicians, at least, need not be told that an external view alone of the body is perfectly nugatory, and that it can lead to no certain deduction."—Beck, Elements of Medical Jurisprudence, p. 955.

For the detection of poisoning, the body must be examined, but mere inspection is insufficient; an analysis of the contents of the stomach is required. Professor Christison remarks—"That the chemical evidence in charges of poisoning is generally, and with justice, considered the most decisive of all the branches of proof. * * * * Although, on the whole, the appearances after death, when considered singly, can very rarely supply evidence of poisoning even to the amount of probability, they may, nevertheless, prove very important under other points of view."—Christison, Treatise on Poisons, pp. 52, 54.

The opinion of Mr. Baker, one of the coroners for Middlesex, derives weight from his extensive experience; it is to the same purport:—

"It does not seem very difficult, without resorting to medical testimony, almost in every case, to carry out the full intentions of the Legislature—[with reference to the registration of the "Cause of Death,"]—enforced as the duty more particularly is, by the cogent requisitions of the Registrar-General, in his circulars to the registrars appointed by him, to work out its principle in the best possible manner."—W. Baker, Esq. Minutes of Evidence taken before Select Committee on Coroners for Middlesex, p. 127. 1840.

The Medical Witnesses' Act, introduced by Mr. Wakley, had previously enabled the coroners to command the services of persons skilled in pathology, and the analysis of poisons; and thus placed it in the power of juries to obtain adequate evidence and knowledge to comply with the requirements of the Registration Act. The number of inquests has latterly increased; and to this Act and your instructions the increase was ascribed, in part, by the witnesses examined before a Committee of the House of Commons. The act, however, will improve the character more than it has increased the number of the verdicts. Formerly the verdicts did not assign the "cause of death." The information which they furnished in violent deaths was exceedingly vague, imperfect, unintelligible, and would have scarcely been worth preserving in the national records.

"*Felo de se*" and "accidental death" cannot properly be considered "causes of death." So late as 1839, notwithstanding the improvements which have latterly taken place, the juries did not ascertain the "cause of death in several thousands of inquests. Under the inquiry, "Cause of death?" in the registers, the Registrars could enter nothing more than "natural death," or "visitation of God;" which it is scarcely necessary to say are no answer at all, but mere evasions of the inquiry, as it is understood in medical science, and in the medical jurisprudence of the present day. Even with the aid of well-qualified medical witnesses, and experienced coroners well versed in medical jurisprudence, the causes of some deaths would be inquired into in vain, and be registered "unknown;" but the cases of this class would probably not be numerous; and would diminish every year with the progress of scientific investigation, undertaken in compliance with the provision of the Registration Act.

It would be taking a narrow view to assume that the inquest is intended only to detect deaths by murder. About 35,000 inquests were held in the two years, 1838-9; when 156 murders were registered. There was but 1 verdict of murder to 224 inquests. According to the Criminal Returns, 121 offenders were tried for murder in 1838-9; of that number only 37 were convicted, and 15 were executed. The number of deaths by manslaughter is inconsiderable. The primary question in every inquest unquestionably is:—Was the death the result of homicide? And even this can only be satisfactorily answered by strictly complying with the provision of the Registration Act, and inquiring into the particulars of the actual cause of death. Exclusive of the use of the deodand in preventing accidents, however, the principal utility of the inquest is the security which it affords the public mind; and its tendency to prevent crime, by convincing the evil-minded that murder cannot be committed with any chance of impunity. But inquests, in which the "cause of death" is not inquired into, can neither inspire criminals with dread, nor the public with confidence. The most important part of the evidence of the inquest is omitted, when the "cause of death" is not investigated. The expense of inquests, which is now not considerable, would be slightly augmented; but the value of the information, and the use of the inquiry, would be increased in an infinitely greater degree. The Legislature, moreover, has left the coroners no discretion upon this matter. The juries are bound by the Act to inquire into the particulars required by you; and the coroners are bound to supply the registrars with the results—comprising an intelligible statement of the

“cause of death,” so far as it can be ascertained. The inquests in England will, henceforward, be as sufficient as similar inquiries in France or Germany; and be placed on a level with the present state of medical jurisprudence,—to contribute to that branch of science an immense number of new, well-authenticated, and instructive facts.

When the proximate cause of death has been ascertained, it is sometimes difficult to determine whether it should be referred to disease, suicide, homicide, or accident. The difficulty is greatest in drowning. In deaths by wounds, fractures, burns, poison, and hanging, the circumstance of death, as well as collateral proofs, assist the mind in coming to a decision. But the state of the body in persons “found drowned” is generally the same, whether they were thrown into the water, drowned themselves, or fell into the water by accident. In the Metropolis, 351 persons were drowned in one year (1838); 29 were suicides, 1 was a murder, 130 were accidents, and the verdicts left it undetermined in 191 instances—more than half the total number—whether the individuals met their death by suicide, homicide, or accident. It is true that the verdicts never express more than degrees of probability—approaching more or less to certainty—and that the juries might have safely come to the decision, on the circumstantial evidence, that many of the number were suicides: an opinion which they would often unhesitatingly express, if the verdict “found drowned” did not save them from the dilemma of pronouncing the suicide insane, or guilty of “*felo de se*.” Several of the bodies, however, were not identified. The profession of 25 men “found drowned” (1838) in the Thames, canals, and waters round London, was not known. The fact that some bodies of drowned persons are never found—that others are not identified—and that murder by drowning leaves no marks, appears to offer a chance of impunity to the commission of the crime in this large city. In Paris all persons found drowned, or dead, are conveyed to the Morgue; where, if they are not soon claimed, the bodies are dressed and arranged, so as to afford every facility for identification. When a person is missing, under suspicious circumstances, the friends resort thither; the bodies are frequently identified, and a clue is obtained to the motives and nature of the act. In London the bodies found dead are taken to any obscure vaults, public-houses, or small rooms that can be obtained for the purpose, at the cost of a few shillings; where they often lie undescribed, unadvertised, unknown, until the constable summon a jury, in the immediate neighbourhood; who bring in—with no evidence before them of identity, or with little satisfactory evi-

dence as to the circumstances of the death—the common verdict, “Found Drowned,” or “Found Dead.” The coroner very properly advises the parish to advertise the body. But it is then late; it would involve considerable expense in some parishes; and the unnamed dead are frequently committed, without further delay, trouble, or expense, to the parish burial-grounds. Persons may thus disappear, and be buried, before their friends miss them, in the dense population of the metropolis. Without adopting the French Morgue in all its details, some steps should be taken to remedy the defects in this part of our system of police. The bodies “found dead” should be conveyed to *one central place*, where they may lie until notice had been given to the coroners, and opportunities had been afforded for identifying them. Advertisements, drawn up under the direction of the coroners, should be sent to the newspapers, and placards to the police offices, before the inquests were held; which would enable the parties concerned to identify the dead, and the juries to ascertain the causes of death, in compliance with the clause in the Registration Act.

Deaths in the London Hospitals.—Separate Abstracts have been made of the causes of death in the London hospitals, namely—in the Charing Cross, St. George’s, Middlesex, North London, Westminster, St. Bartholomew’s, London, Guy’s, St. Thomas’s, the Dreadnought, Greenwich, the Fever Hospital, and the Small Pox Hospital. The number of persons who died in those hospitals within the year amounted to 2491, of whom 1729 were males, 762 females. Hospital cases have long been the principal basis of medical reasoning. While a comparison of the deaths in the hospitals with the total deaths in the metropolis will show that such reasoning is open to numerous fallacies, it will tend to correct its results, and will furnish a link of connexion between the two classes of facts. The Greenwich Hospital perhaps ought not to have been included in the Abstract; it raises disproportionably the number of deaths and diseases of old men. If the deaths from small-pox and typhus in the Fever and Small-Pox Hospitals were subtracted from the deaths in hospitals, few cases would remain. Of 301 persons who died of erysipelas, 60 died in the hospitals. In many cases the erysipelas must have followed operations or accidents; and it will be observed that 390 of 1212 deaths by violence were registered in these institutions. 7 of 20 deaths from aneurism, 31 of 73 from hernia, 7 of 15 from diabetes, 10 of 27 from stone, 41 of 123 from diseases of the joints, &c. 7 of 21 from fistula, 4 of 7 from purpura, 51 of 368 from carcinoma, took place in the hospitals. Cases are not admitted indiscrimi-

nately at the hospitals; and the family relations of the patients induce them, when labouring under the same disease, to seek admission at one age in greater numbers than at another.

Sick children remain at home under the care of their mothers; they would in general be refused admission at hospitals. The aged poor, with chronic maladies, go to the workhouses. Young persons without families, between the age of 15—30, often servants and immigrants from the country, resort in the greatest numbers to the hospitals, where 1 in 7 deaths at that age are registered.

The deaths in the hospitals from consumption were 101 at the age 20—30, and 38 at 50—60; but the deaths from this disease in the metropolis were probably not in the proportion of 101 to 38, but of 99·4 to 39·6. To obtain the deaths in the four intervening decennial periods, the deaths from consumption in the hospitals, namely, 101, 82, 61, 38, should be multiplied by 6·8, 8·4, 8·9, and 10·9; the products, or 687, 689, 543, and 414, divided by the population living at the respective ages, would give the mortality by consumption. Corrections of this kind are always required in attempting to determine the prevalence of diseases from the records of hospitals.

Diseases of Towns, and of the Open Country.—The general principles connected with this subject have been discussed in the Appendices to your former Reports; and the circumstances were pointed out, which, it is believed, increase the mortality in towns, cities, and dense populations of every kind. In Table N, the results of the observations of two years (1838-9) are combined. The number of deaths by different causes in the metropolis, and 24 of the principal town, or city districts, are contrasted with the deaths from the same causes, in counties containing a less dense population, chiefly engaged in agriculture. The Table shows the annual mortality by each cause out of 1,000,000 living, and the relative excess in the town districts. The way in which the population, in the middle of the two years (January 1, 1839), was estimated, has been already explained. The population enumerated in 1831 was assumed to have increased at the same rate as in the 10 years 1821-31.

The density of the country districts was to that of the towns as 10 to 245, the mortality as 100 to 144. The mean duration of life, in the two classes of districts, differs nearly 17 years; it is in the proportion of 55 years (country), to 38 years (towns). The difference was greater than was given in the calculation founded on the facts observed in 1838; when the deaths in Bristol, Clifton, and Norwich, were (by error) not subtracted from the deaths in the counties of Gloucester-

shire and Norfolk. The mortality in the town districts, however, declined in 1839, more than the mortality in the country districts. As the population increases faster in the town than in the country districts, the difference in the mortality was greater than it is represented to be by these numbers.

The diseases, chiefly incidental to childhood, are twice as fatal in the town districts as they are in the country.

The deaths, by several diseases of old age, were almost equally numerous in the towns and the country. Asthma is, however, an exception.*

It must be borne in mind that the number of children and old people *living* in the towns is less than in the country districts; while the number of persons in the middle of life is proportionally greater in the towns than in the country.

The following diseases, occurring generally between the ages of 15 and 60, were from 25 to 50 per cent. more fatal in the town than in the country districts.

The tendency to consumption was increased 24 per cent.,—to typhus 55 per cent., in the town districts; but as the absolute mortality from consumption is three times as great as from typhus in towns, and nearly four times (3·73) as great in the country, the excess of deaths by consumption, caused by the insalubrity of towns, is greater than the excess of deaths by typhus—a fact which has hitherto been overlooked. Thus, 24,094 deaths from consumption occurred in the country, 32,436 in the town districts; the excess amounted to 8342 deaths: 6402 deaths from typhus occurred in the country, 10,852 in the town districts; the excess amounted to 4450 deaths. The difference is more correctly exhibited by a comparison of the mortality from the two diseases.

The facts show the propriety of the ordinary medical advice to place persons of a consumptive habit in a pure atmosphere; but they militate against sending them to reside in the continental towns, in many of which the mortality is as high as it is in Bethnal Green and Whitechapel. Paramenia (mismenstruation), though rarely fatal, is a very common disease, and one which greatly embarrasses the medical practitioner. The facts in the table point out the utility of the country watering-places to patients afflicted with the complaint in cities. The excess of deaths by childbirth in the town districts is striking. Out of nearly the same number of

* *Deaths in 1,000,000 living in the*

	Country.	Towns.
Old age	2446	1922
Paralysis	333	334
Apoplexy	374	409
Asthma	182	645

deliveries, 909 mothers died in the country, 1560 in the town districts.

The tables, calculated upon the same principles as the corresponding tables in the appendices to former reports, show the immense difference in the salubrity of parts of the metropolis. It is gratifying to perceive that the mortality in the whole of the metropolis—but particularly in Whitechapel and the worst parts—had decreased in 1839. The weekly tables, up to the middle of 1841, show also a progressive amelioration, which may be expected, *cæteris paribus*, to proceed much more rapidly when the new streets and park shall be opened, and when the sewers, and streets, and the dwellings of the poor, are placed in circumstances which will secure more cleanliness and a moderate supply of pure air. The causes of the excessive mortality of towns are well known, and it cannot be too frequently repeated that they admit of removal to a great extent.

The mortality increases, *cæteris paribus*, as the density of the effluvial poison generated in cities, and not strictly as the density of the population. The indigence of the inhabitants, or an insufficiency of proper food—even when not carried to the extent of starvation or famine—has also a decided effect on the production of effluvial poisons, as well as on the tendency to diseases of every kind. Hence the mortality is not always greatest in the densest parts of cities.

This principle explains the facts, that, although the mortality is increased 44 per cent. by the present condition of the towns in England,—where the proportion of town population is greater than in any other country in Europe, except Belgium,—the mortality of the nation has been much below the average during the whole of the present century; and, up to the present day, the expectation of life remains higher in England than in the rest of Europe. The industry and intelligence that have created flourishing towns have ameliorated, though not so rapidly as they might have done, the sanitary condition of the people.

MEMOIR

ON

PSEUDO-STRANGULATIONS,

OR ON SIMPLE INFLAMMATION IN HERNIÆ.

BY M. MALGAIGNE.

WHEN an abdominal hernia becomes suddenly irreducible, is attended with more or less acute pain, and excites more or less serious general symptoms, constipation, vomiting, hiccup, &c. it is said to be strangulated. If the progress of the symptoms be rapid, it is called inflammatory strangu-

lation: if it be slow, the strangulation receives the name of *engouement*. But, in either case, the operation is the common resource: the rule is, not to wait too long before resorting to it; even in the *engouement*, M. Boyer judges it indispensable if the symptoms increase; and in old and debilitated subjects, even when there is no augmentation of the symptoms, he would have the operation performed within the three or four first days.

But before laying down such bold principles, had Boyer thought well of the seriousness of the operation? Yes, certainly, but with, I know not, what respect for the authorities of the last century, he said, with Pott, "The operation of hernia is not of itself dangerous." This is surely enough to astonish any one who has either himself performed it a few times, or has ever seen it performed: but in order to establish clearly its real chances, I have collated all the operations performed by my colleagues and myself, in all the Paris Hospitals for the last five years and some months, between 1836 and 1841, and I have found that after 183 operations there have been 114 deaths. Then, looking out what was the proportionate mortality among old people, in whom Boyer so presses the operation, I have found that between 50 and 80 years of age, of 97 operated on, 70, that is, nearly three-fourths, have died.

The *engouement*, says Boyer, is occasioned by the accumulation of hardened excrement in the hernia: and he adds, that it is frequent in old herniæ because the excrements habitually accumulate in them, in virtue of certain theoretical reasons which he mentions. Now, I can say without exaggeration that I have handled more than three thousand herniæ: and this habitual fact of which Boyer speaks is so rare that I have never met with it. And to render the demonstration more striking, I chose at Bicêtre, of which I direct the surgical affairs, some of the oldest and largest herniæ ever known: I examined four such with care: percussion over almost every part of them yielded a clear sound; on no portion was there absolute dulness: the patients went regularly to stool, nor could hard substances be any where felt under the skin: and yet they united in the highest possible degree all the theoretical conditions that Boyer mentions. Moreover, I have had occasion to make several autopsies of herniæ remarkable for their excessive size, and I have never seen any hard excrement accumulated.

[But it is not necessary to go with M. Malgaigne in his criticism of M. Boyer, whose doctrines are in no measure the foundation of the practice in this country, although on other grounds it may be the

same, and, it may be, as erroneous, as his. What follows is more important.] To determine on the propriety of an operation, and on the state of any hernia, there are, says the author, three principal circumstances to be considered.

1st. The pure and simple strangulation, which is rare, which occurs without inflammation and produces gangrene in a very few hours. 2d. Pure and simple inflammation, which is very common, and is almost limited to the serous membrane in the hernia. 3d. The inflammation of the viscera in mass within the hernia, of the omentum with its adipose tissue, of the intestine with all its membranes. This last seldom comes except in the sequence of the two others, either in consequence of the strangulation when not severe enough to produce immediate gangrene, or through the irrational efforts with the taxis in cases of simple hernial peritonitis. As to the *engouement* of authors, it is a mere creation of the imagination.

Now the hernial peritonitis, of which the mere name is hardly mentioned by the most modern writers, is the most common accident which supervenes in herniæ: it presents itself in various degrees, which may be arranged according to the two principal types, adhesive and suppurative inflammation. The adhesive inflammation is frequently slight, of short duration, evidencing itself by more or less acute colic, sometimes by symptoms of obstinate indigestion: and then going on to excite vomiting and hiccup, like true strangulation. The hernia is then irreducible, the taxis only aggravates the symptoms; and yet in this state of things, rest in bed, and warm or cold topical applications, are often sufficient to effect reduction. Or lastly, in a more considerable degree, the hernia remains irreducible, or several days and sometimes several weeks are necessary to alleviate the inflammation and to accomplish the return of the protruded parts.

Now when we succeed in reducing the herniæ there remains scarcely any trace of adhesive inflammation except at the lowest part of the sac, where the peritoneum appears thickened, hard, rough, and often scattered over with blackish spots. If by any cause the hernia is left out either wholly or in part, then adhesions form: and as I have said that in the living subject adhesive inflammation is the most frequent of accidents in hernia, so also in the dead body the frequency of adhesions and of thickening completes the demonstration, and proves the common occurrence of this cause of irreducibility.

Suppurative inflammation is infinitely

more rare, and can scarcely be proved except by the operation or the autopsy.

But how can the cases of inflammation be distinguished from those of genuine strangulation, and what course of conduct is to be pursued? Here, in few words, are the results of my researches on this head.

1. In all old and voluminous intestinal herniæ which have never been kept up by a truss, or from which the truss has long been discontinued, there is no strangulation; the ring or the rings being much larger than the size of the pedicle of the hernia requires. This general fact results from all the observations that I have been able to make, whether on the living or on the dead; and I have found no exception to it.

2. In unmixed epiploceles, of whatever volume, it is most frequently an adhesive or a suppurative peritonitis that is taken for strangulation. I say *most frequently*, because I do not wish absolutely to deny the possibility of strangulation: but for my own part, I have never seen it, nor have I been able to find in any author a well-authenticated example of it: and its reality is therefore yet to be demonstrated.

3. Consequently, in these two cases, the operation is always irrational; and, with the exception of the taxis at the beginning or at the end of the inflammation, the treatment ought to be merely antiphlogistic.—*Gazette Médicale, Septembre 25, 1841; from the Proceedings of the Institute of France, of the 13th of September.*

ON THE COMPOSITION OF THE BLOOD IN DISEASES.

By M. FELIX HATIN.

IN a memoir on this subject, read at the Institute on the 6th of last September, the author says:—The researches of MM. Andral and Gavarret, by pointing out the superabundance of fibrine in inflammations, render it necessary for me to add further proofs to those which I have already published, to show that the clot of blood is no certain index of the inflammatory state; for this *fibrine* is nothing more than what is called the buffy coat, or the *hemaleucine*. Now, I have demonstrated that we may excite the formation of this substance or prevent it, whatever be the condition of the blood, by leaving it at rest or by agitating it at its exit from the vein. I have established that the proportion of fibrine in the human blood is $\frac{6}{1000}$; but that, after feeding, this quantity may increase to its double or triple. I have also shown that, during pregnancy, at least during its second half, the quantity of fibrine is equally

increased. If, then, the increase of this product takes place in circumstances that are purely physiological, its variations cannot be a certain sign of disease. Besides, we have searched in vain for the hemaleucine during the existence of active inflammations, while, on the other hand, it has been found in affections which have nothing inflammatory in their essence ; such as scrofula, gout, &c.

It is therefore contrary to the justest deductions of experience, against the evidence of our very eyes, to make of the buffy coat a constant sign of inflammatory diseases.

Another, and perhaps the most important, result of my researches is, that, even in the inflammations which give rise to the hemaleucine, its quantity is not increased in any proportion with their intensity. MM. Andral and Gavarret, themselves, have put this fact beyond doubt by the results of their practice ; for, in the cases of pneumonia, for example, which they have given, the last bleeding was almost always that which presented the most considerable proportion of fibrine, and yet they did not dare to repeat the blood-letting, which they ought to have done had they allowed themselves to be guided by their theory.—*Gazette Médicale*, September 10, 1841.

[The detailed observations of the author (who, in his opposition to the exalted, seems to be one of the Raspail-School), from which this brief abstract is taken, do not, in their full detail, at all disprove the fact that inflammatory blood contains more fibrine than healthy blood ; but they certainly cast even more doubt than has hitherto been entertained on the value of the buffy coat as a sign of inflammation. His observations of its being always formed in blood drawn from a person who has recently fed, are deserving of careful attention.]

ROYAL COLLEGE OF SURGEONS.

LIST OF GENTLEMEN ADMITTED MEMBERS.

Friday, December 31, 1841.

V. F. Eusom.—H. Weld.—H. Newman.—C. N. Sissmore.—J. Leigh.—J. Humpage.—W. C. F. Brookes.—T. Leonard.

Friday, Jan. 7, 1842.

J. Underwood.—J. L. Murray.—L. Pugsley.—W. Shacklock.—N. J. Moore.—J. W. Mountjoy.—G. R. Van Freer.—J. Harrison.—T. S. Little.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, December 30, 1841.

J. O. Taylor, Liverpool.—D. Timmins, Dudley.—

O. New, Eversham.—J. Campling.—J. E. Mathew.—T. Taylor, London.

Thursday, Jan. 6, 1842.

H. J. Brown, Hampton Court, near Evesham, Worcestershire.—E. Turner, Sherbourne, Dorset.—William Player, Moored, near Bristol.—John Bowie, Bristol.—C. P. Bates, Huntingdon.

A TABLE OF MORTALITY FOR THE METROPOLIS,

Shewing the number of deaths from all causes registered in the week ending Saturday, Jan. 1, 1842.

Small Pox	3
Measles	45
Scarlatina	12
Whooping Cough	76
Croup	17
Thrush	2
Diarrhœa	4
Dysentery	3
Cholera	0
Influenza.....	1
Typhus	22
Erysipelas	9
Syphilis	0
Hydrophobia	0
Diseases of the Brain, Nerves, and Senses ..	158
Diseases of the Lungs, and other Organs of Respiration.....	300
Diseases of the Heart and Blood-vessels	30
Diseases of the Stomach, Liver, and other Organs of Digestion	65
Diseases of the Kidneys, &c.....	6
Childbed	9
Ovarian Dropsy	1
Disease of Uterus, &c.	4
Rheumatism	1
Diseases of Joints, &c.	2
Ulcer	3
Fistula	0
Diseases of Skin, &c.....	1
Diseases of Uncertain Seat	132
Old Age or Natural Decay.....	82
Deaths by Violence, Privation, or Intemperance	41
Causes not specified	8
Deaths from all Causes	1037

METEOROLOGICAL JOURNAL.

Kept at EDMONTON, Latitude 51° 37' 32" N. Longitude 0° 3' 51" W. of Greenwich.

January.	THERMOMETER.	BAROMETER.
Wednesday 5	from 25 to 35	29·91 to 29·95
Thursday . 6	28 36	30·03 30·19
Friday . . 7	19 33	30·30 30·33
Saturday . 8	25 32	30·33 30·26
Sunday . . 9	23 30	30·15 30·05
Monday . . 10	23 30	20·02 29·94
Tuesday . 11	24 34	29·87 29·92

Wind N. and N.E. from the 5th to the 9th, both inclusive ; since S.W.

Except the afternoon of the 6th and following day overcast. A little rain fell on the 6th, 7th, 9th, and 11th.

CHARLES HENRY ADAMS.

WILSON & OGILVY, 57, Skinner Street, London.

THE
LONDON MEDICAL GAZETTE,

BEING A
WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

FRIDAY, JANUARY 21, 1842.

LECTURES
ON THE
PRINCIPLES AND PRACTICE OF
PHYSIC,

Delivered at King's College, London,

BY DR. WATSON.

Diseases affecting the muscular texture of the heart; and their treatment. Changes to which the valves of the heart are subject. Effects, and diagnosis of those changes. Angina pectoris.

I KNOW not how I can so well put you in possession of what I know, or think, concerning particular structural diseases of the heart, as by taking them in succession, and offering a sort of running commentary upon them. The *mechanism* of those structural changes, and the altered sounds, and the other physical signs, arising out of them, I endeavoured to explain in the last lecture. Bear in mind that, in this place, I can do no more than draw broad outlines.

Simple hypertrophy of the left ventricle. This sometimes occurs when we can discover no mechanical obstacle to the passage of the blood out of the ventricle which might account for it: none, I mean, by the closest scrutiny made even after death. Is it then possible that this change may be brought about by physical causes which are not permanent, and have no place within the body: such as undue action of the organ for a length of time, in consequence of habitual bodily exertion? A runner, for example, we may conceive to keep his heart beating with a degree of force and frequency beyond what is natural, for the greater part of the day; and that for many days, or weeks together. Again, can simple hypertrophy grow out of that excessive action of the heart which may be kept up, day after

day, for a long period, by protracted mental emotion? It is difficult to answer these questions. But I presume that causes of this kind—that any cause, in short, which implied long-continued increase in the function of the organ,—*would* suffice to generate hypertrophy. What is certain, however, is, that such causes seldom, do act with sufficient intensity and constancy to produce these effects: and simple hypertrophy of the left ventricle, with no physical obstruction to the flow of blood through the heart, and no impediment to the free play of the organ, is rare.

We ascertain its existence, when it does exist, first, by the account which the patient gives of himself. He has a *sensation* of beating of his heart, which he ought not to have; he feels it, and hears it beating as he lies awake in bed: or even at other times when he is at rest. The pulsations are regular. Hypertrophy has no tendency in itself to cause the pulse to intermit or to become irregular. There is no marked dyspnoea: the circulation of the blood through the lungs is not much affected by this alteration of the left ventricle; they are in fact protected by the mitral valve: there is seldom any dropsy: but the arterial circulation being forced, there is a tendency to active congestion in the capillary vessels. As there is no mechanical obstacle to bridle the excessive power of the muscle, the pulse is full and strong; the face is florid; the patient is liable to headache, to bleeding from the nose, to active hæmorrhage, and to local inflammation. If you listen to the heart in such a case, you find that the systolic sound is less loud and clear than natural. It is not heard beyond, nor even perhaps over the whole extent of, the præcordial region: but there is no bellows sound. And if you place your hand upon the left breast, you feel that steady, swelling, incontrollable impulsion, which I spoke of in the last lecture as the surest sign that I am acquainted with, of hypertrophy. Sometimes the præ-

cordial region is manifestly bulging and prominent.

If I were to preach for an hour concerning the treatment of such cases, I could say no more than this: that they require perfect quiet of mind and body; undeviating abstinence; in short, the strict observance of the antiphlogistic regimen as formerly described; and some of the antiphlogistic remedies: particularly blood-letting in small and repeated quantities; with a close attention to the functions of the digestive organs. These, are the cases in which, if in any, we may expect to *cure* hypertrophy.

If simple hypertrophy of the left ventricle be rare, hypertrophy of the same chamber from a mechanical obstacle, or from some hindrance to the easy working of the hydraulic machine, is exceedingly common. What difference, then, let us enquire, is made in the symptoms, in the treatment, and in the prospect of recovery, by the presence of a physical impediment, out of which the hypertrophy has grown?

The mechanical impediment will frequently signify its existence, by causing some unnatural sound: a systolic bellows sound most commonly, which is audible over the sternum, along the course of the aorta. And the mechanical impediment will *tend* to cause faltering of the pulse; but generally the hypertrophy corrects that tendency. So, on the other hand, the mechanical obstacle corrects the tendency of the hypertrophy to cause active capillary congestion: and when the obstacle is considerable, it will prevent the pulse from being so full and strong as in the former case. If to the physical signs of hypertrophy of the left ventricle there be added a systolic bellows sound, and a disproportionate smallness and feebleness of the pulse at the wrist, we may safely conclude that there is some impediment to the escape of the blood from the left ventricle into the aorta; and that this impediment has given occasion to the hypertrophy.

Now, in this case, the hypertrophy is really an endeavour towards health. The increased power of the ventricle compensates for the bar which is opposed to the current of the blood. The blood would not be able to go on without the hypertrophy. There would ensue a tendency to stagnation in the circulation, a faltering pulse, imperfect arterialization of the blood, blue cheeks and lips, dyspnoea, dropsy; but the augmentation of bulk and force in the impelling muscle obviates this: obviates it at least for a while: puts off the evil day to a distance. And this being the case, and having no means of removing the mechanical impediment, we should be mad to desire to cure the hypertrophy, which is to a certain degree a remedy for the impediment; and we cannot cure it if we would. But we have to endea-

vour to keep it within due bounds. If the beating be troublesome to the patient, we may alleviate that symptom, and check what there may be unnecessarily active in the contractions of the morbid chamber, by abstracting blood from the præcordia by leeches; and by soliciting the action of the kidneys by means of cooling diuretics, among which small doses of digitalis may find an appropriate place. The labouring action of the heart is sometimes calmed by the application of a belladonna plaster. In this variety, also, of the disease, it is of primary importance that no undue efforts of the body should be made, and that the patient should, as much as possible, be protected against all causes of mental emotion; that scrupulous temperance should be enforced; and that all the functions of the body should be carefully watched and regulated.

These are not cases in which we can look for recovery: but they are cases which bad management and imprudent habits may hurry on to a fatal termination; and which judicious treatment and a well regulated course of living may render tolerable, and carry forwards for a considerable period.

Under the same condition of mechanical impediment, we oftener have eccentric hypertrophy of the left ventricle; hypertrophy, *i. e.* with dilatation. Of course the bulk of the organ is augmented by both of those conditions; and sometimes it becomes enormous, as big as that of a bullock. The symptoms will differ somewhat, according as the hypertrophy, or the dilatation, preponderates, and therefore it will be as well to state here what are the symptoms of simply dilated ventricles. They are a diminished *impulse* of the heart's action; with a clearer sound than is natural. The first sound approximates to that of the heart's diastole; to the clacking second sound: and it is heard extensively. There is more or less tendency to fluttering palpitations and irregularities of the pulse, which is usually weak and small; to faintness and debility, and to coldness of the extremities: and when the *right* ventricle is dilated, there are some other symptoms which I shall notice presently.

Now, I say, there will be a mixture or modification of the symptoms, when the left ventricle is both dilated and hypertrophic. The dilatation will aid the mechanical impediment in giving a tendency to irregularity and intermission of the pulse; and the hypertrophy will tend to rectify that disposition. And we must *trim* our management of such cases accordingly. If the pulse flutters, we cautiously administer tonics, or stimulants: if it be steady, and the signs that belong to simple hypertrophy predominate, and are excessive and troublesome, we must starve

the patient, take blood from his side, purge him, and give him diuretics; but at all times keep him as *tranquil* as we can.

Simple hypertrophy of the right ventricle is not a common disease. When it occurs, it results from some actual or virtual impediment to the passage of the blood from the ventricle into the lungs. The most extreme instance of it that I ever saw, was in the heart of the son of a medical friend, who died at the age of seventeen; having been for many years affected with the *morbus cæruleus* as it has been called, *i. e.* an habitual blue state of the cheeks, lips, and tongue, finger nails, and the skin generally; attended with shortness of breath, and augmented by every kind of exertion. It is seldom that persons thus affected live so long as this poor boy did. The heart, as is usual under such circumstances, was malformed. The septum between the ventricles was imperfect at its upper part; and the aorta belonged as much to the one ventricle as to the other. The pulmonary artery would not admit a goose quill: the walls of the right ventricle were as thick as those of the left.

Authors tell us that hypertrophy of the right ventricle of the heart is a cause of pulmonary apoplexy. I explained to you in a former lecture why I cannot believe in this doctrine. In the first place I say that the increased thickness and strength of the walls of that chamber supply a measure of the *difficulty*, and not of the *freedom* and *force*, with which the blood is conveyed to the lungs. In the second place pulmonary apoplexy does not result from rupture of vessels by the *vis à tergo*, nor in general from rupture of vessels at all; and therefore is a quite different lesion from *cerebral* apoplexy. It is simply an *accident* of pulmonary *hæmorrhage*. And lastly, I never met with pulmonary apoplexy coincident with mere hypertrophy of the right ventricle. The right ventricle lies *on this side* the lungs, in the order of the circulation; and accordingly, following the rule I mentioned in the last lecture, its morbid states are for the most part *effects*, and not *causes*, of *pulmonary* disease.

The commonest affection of the right ventricle is dilatation without any increase of thickness, but with attenuation even of its muscular parietes. This is in general the consequence of *long standing* pulmonary disease; which has prevented the easy passage of the blood out of the right ventricle. It is often, or ultimately, attended with dilatation of the right auricle, and of the jugular veins, which stand out in relief from the sides of the neck, and exhibit an undulating sort of pulsation, produced by the regurgitation of a part of the blood, whenever the ventricle contracts. I have taken from the neck of a person dead of

such disease, veins into which I could pass my forefinger. With all this there is a fluttering action of the heart, an irregular pulse, great distress and shortness of breathing, a dusky skin, and blueness of the countenance, which is bloated and anxious; and a tendency to delirium and drowsiness; while, sooner or later, the whole cellular tissue of the body becomes charged with accumulated serum. Some degree of this may now and then be noticed towards the fatal close of phthisis. Much oftener it accompanies the later periods of extensive pulmonary emphysema. The same condition of the right chambers, producing the same afflictive consequences, is the very frequent sequel of organic changes that originated in the left side of the heart.

Disease such as I am now describing, in its advanced stages especially, is difficult to treat. If you stimulate, you run the risk of increasing the patient's distress; if you deplete, you incur the hazard of producing fatal syncope, of bringing the heart to a pause from which it is never able to recover. Here, again, you must try to keep the kidneys active; you must enjoin that as far as may be possible, all causes of agitation or hurry, every thing which has previously been found prejudicial to the patient, may be sedulously warded off. I have found more benefit in these cases from the cautious employment of steel, than from any other drug. Without forcing the heart's action, it appears to have the effect of increasing the tone of its muscle; which it thus enables, *for a time*, to compete more successfully with the load it has to carry, and the impediment which it cannot overcome. We can do no more in such cases than palliate.

Sometimes the parietes of one or of the other ventricle become so thin—either in consequence of dilatation with tenuity, or through ulceration of the muscular tissue—as to bulge out into a pouch, or even to crack; in which case the patient almost always dies suddenly, the motion of the organ being stopped and strangled by the effusion of blood into the pericardium; so that to die of a broken heart, is not a mere metaphor. A clergyman from the country, whom I previously knew, called at my house in the autumn, and waited some time in my absence; but went away at last without seeing me: and after consulting Dr. James Johnson, set out for his home, ten miles on the other side of Colchester. He had been unwell for some time; had suffered occasional attacks of dyspnoea; and was unusually nervous and irritable. He must have been conscious of some severe distress, for he was extremely anxious to get home, and bribed the post boys to drive fast. As soon as he reached

his own house, he took some supper, and went to bed, apparently comfortable. Half an hour afterwards one of his servants went to him, and found him asleep. At the expiration of another half hour, he was again visited, and was then a corpse. Among other changes, the pericardium was full of blood, which had escaped from the heart through a rent in the left ventricle, large enough to admit one's finger. That part of the ventricle which surrounded the laceration, was unnaturally thin, to the extent of a crown piece. There are several specimens of rupture of the left ventricle in the Museum at St. Bartholomew's Hospital. George II. died of rupture of the heart. It is curious enough that a Duchess of Brunswick, of the same family with George II. died of the same disease. In her case an ulcer penetrated the parietes of the *right* ventricle, which in other respects was healthy. In most instances, the rupture has taken place in the left ventricle. The same chamber is liable also to *aneurisms*: that is, to partial distension of its walls into lateral cells or pouches. This form of disease has not been met with in the right ventricle.

Hypertrophy—or dilatation—or dilatation and hypertrophy—may affect, in their various degrees and combinations, one chamber only of the heart; or several at the same time; or all of them together. It would be vain to attempt to represent, in verbal description, these complicated changes. Enough, I trust, has been said, to enable you to unravel them when they come before you; and to ascertain, with sufficient exactness, the general indications which they severally furnish, and the plan of treatment which they require.

You will often find the muscular substance of the heart pale, soft, and flabby; easily broken down, or penetrated by pressure. This may concur with general debility and looseness of tissue; it sometimes accompanies a plentiful deposit of fat about the organ: and it is supposed to be sometimes also a consequence of inflammation affecting the muscle. Walls thus soft are likely to yield under pressure: but I know of no particular symptom by which we can detect such a state of softening.

The morbid conditions of which I have been speaking, involving the muscular substance of the heart, spring very frequently indeed from pre-existing morbid conditions of the membrane lining the heart, or of the membrane investing the heart. It is necessary therefore, in the next place, to enquire into the nature and history of *these* morbid changes: and I will first request your attention to the diseases of the lining membrane. The investing membrane is familiar to you as the *pericardium*. Of late years, since

the diseased states of the internal membrane have been more studied and understood than they formerly were, it has been called the *endocardium*: a convenient enough name, which may occasionally spare us circumlocution. Now, certain parts of the endocardium are much more obnoxious to disease than others: those parts which enter into the fabric of the valves and orifices of the organ. The membrane is here in close contact with a dense fibrous tissue; and participates in the changes to which that tissue is subject. And it is an important fact, that the valves and orifices of the left side of the heart are much more frequently affected with disease than those of the right side. I have adverted to this fact before. What is the determining cause of it I cannot tell; but it seems to be a portion of a more general fact; namely, that the arteries are more liable to chronic morbid changes than the veins. Some explain the difference by alleging that the left side of the heart has the heavier task to accomplish. But nature seldom executes her purposes so clumsily, as not to adjust the strength of her machinery to the labour it is destined to perform. Others remark that fibrous tissue is more abundant, and therefore the changes proper to that tissue are more numerous and extensive, on the left side. And this may be the true explanation. Others, again, have conjectured that the arterial blood is more irritating than the venous. But there is no evidence of this: and it is better to content ourselves with noticing the fact, without attempting to account for it by mere gratuitous hypothesis.

You are not, however, to suppose that the right side is exempt from valvular disease. When there is much change on the left, we often find a less degree of the same kind of change upon the right. The valves of the pulmonary artery are, perhaps, the least frequently of all the valves found otherwise than healthy.

Many of the alterations that take place in the internal lining of the heart result, apparently, from inflammation, which causes a deposit of lymph upon or beneath the serous membrane. The valves are apt to lose their thinness, and transparency, and pliancy. They become thick, stiff, puckered, curled up, or glued to each other, or to the opposite walls of the channel. On the other hand, quite independently of inflammation, they may become morbidly thin, riddled with holes, and even rent asunder. What are called vegetations or excrescences may also project from them, very much resembling warts. Or they may be converted wholly or partly into bone.

Alterations of some kind or another are very frequent in the *semilunar valves* of the *aorta*. When they are of such a nature as

to diminish the orifice during the systole, they commonly occasion a systolic bellows sound. When the diseased valves offer no obstruction to the exit of blood from the ventricle, but do not close again immediately afterwards, so as effectually to prevent the reflux of that fluid from the aorta, they commonly give rise to a diastolic bellows sound. When both these defects of function concur, there is often a *double* bellows sound; a sawing alternate noise; one murmur during the systole, another, distinguishable in tone and quality, as well as in time, during the diastole. These sounds are conveyed along the tube in which they are formed, and are therefore most audible in the track of the aorta, as it leaves the heart. If the sound be diastolic, it will *take the place* of the smart clack of the second sound of the heart, or perhaps succeed it. Sometimes the new sound is very loud and curious. I had a patient in the hospital last year, in whom this diastolic sound was, in character and intensity, like the cooing of a pigeon. The patient could plainly hear it; nay, it could be heard by a person standing near him, but not touching his body, even with a stethoscope. In that instance we found one of the aortic valves irregularly thickened, with its free edge loose and flapping, and unable to fulfil its function of closing the aperture. During the diastole it was retroverted, and vibrated in the regurgitating stream of blood; and thus, no doubt, the musical note, heard alternately with the first sound, was produced. In March 1837, I heard in a man (Henry Milton) who was under Dr. Latham's care in St. Bartholomew's Hospital, and who had had acute rheumatism, a very shrill diastolic sound, like the repeated whining of an imprisoned puppy dog wishing to be released. This remarkable sound was audible, by means of the stethoscope, even in the radial artery. The patient died at last in St. George's Hospital, and his case is mentioned in Dr. Hope's book on the Heart. One of the aortic valves was torn downwards to some distance from its edge, and formed a flap, which was perforated by a round hole.

I need not again point out to you the manner in which such disease of the semilunar valves tends to produce hypertrophy and dilatation of the left ventricle.

The *mitral* valve is often thickened; and it is particularly subject, more so even than the aortic valves, to ossification. And the effects of the ossification are to prevent its closing the auricular orifice during the systole; and to prevent its lying flat against the walls of the ventricle, and allowing a free passage of the blood out of the left auricle, during the diastole. The orifice is often converted into an unvarying oval slit, with

puckered edges, and resembling a button-hole; or the valve projects, like a thimble of bone, into the left ventricle. And it is remarkable how small the chink, which is thus permanent, may be, and yet life go on. The heart having been taken out of the body, and the auricle filled with water, I have seen the water pass into the ventricle, by its gravity, *stillatim*; drop by drop.

Let me just remind you, that the direct and necessary consequence of constriction of the mitral orifice, is an accumulation of blood *behind* it; *i. e.* in the left auricle, in the pulmonary veins, in the lungs. Hence so much mechanical congestion, that the blood bursts at length through the bronchial membrane; hæmorrhage, slow or copious, ensues from the air-passages; and *pulmonary apoplexy* is formed.

In extreme cases, where the mischief is chiefly confined to that valve, the blood necessarily reaches the ventricle in a penurious manner; that chamber contracts unsteadily and irregularly; and it may become hypertrophied while its cavity diminishes. Such *concentric* hypertrophy I have seen. But far more commonly there is disease of the aortic valves also; and the condition of the left ventricle is that of hypertrophy with dilatation—*eccentric* hypertrophy.

When there is a permanent chink in place of the limber valve, there may be a double bruit. The first heard during the systole, and produced by the regurgitation of blood from the ventricle into the auricle, through the rigid slit. This is common. The second accompanying the diastole, and resulting from the mechanical impediment to the free passage of the blood from the auricle into the ventricle. This is uncommon. The constriction must be great for the diastolic murmur to occur at all: and when it does occur, it is faint; from the comparative feebleness (I presume) of the auricular contractions.

The form and the consistence of the altered valves being the same, no difference whatever in the sounds, or in the general symptoms, will arise from the particular nature of the changes. It will, I mean, make no difference whether the obstacle to the flowing blood, or the imperfect closure of the orifice, depends upon mere thickening of the valve by cartilaginous deposition, or upon ossification, or upon wart-like vegetations. These last may be found upon any of the valves, but, like other morbid states, they are less frequent on the right than on the left side of the heart; and they are most common of all on the aortic valves. Ossification—the deposition of the phosphate of lime—is almost confined, I believe, to the left side. I never saw the tricuspid valve, or the semilunar valves of the pulmonary artery, converted into bone.

The warts, or wart-like excrescences, which are so often found upon the valves of the heart, are very curious things. Sometimes they are separate, like rows of beads. Sometimes several appear to spring from a common base, which spreads out so as to exhibit a cauliflower appearance. And occasionally they hang in long strings from the valve into the adjoining chamber of the heart. In a patient of Dr. Hawkins's, I saw a cylindrical excrecence of this kind which measured an inch in length. The valves presented slit-like perforations; and from the edge of one of these slits in the mitral valve, this long vegetation dangled into the ventricle. The whole of the valves of the aorta were covered, on their ventricular surface, with similar but shorter excrescences.

They vary much, these vegetations, in consistence. Sometimes they are soft, easily crushed, and capable of being readily detached from the smooth surface of the valve. Others are more firm, and yet separable from the valve without injury to it. Others, again, are so adherent, so rooted into the valves, that they can be removed only by tearing or cutting them off. They are found sometimes on the free edge of the valves; sometimes on their surface, or even on the inner membrane of one of the chambers, especially of the left auricle.

Much difference of opinion has prevailed respecting the nature and origin of these singular appearances. It was a common notion among the French, at one time, that they were really, what they so much resemble, venereal warts. What seems to be certain is, that they are somehow connected with *inflammation* of the internal lining of the heart; and of that which covers the valves in particular. But, then, are they lymph *poured out from* the inflamed membrane? or are they fibrin deposited from the blood *upon* an inflamed membrane? It is probable that the last is, sometimes at least, the true explanation of their origin. You know, that when the membrane lining a vein becomes inflamed, the blood in contact with it has a strong tendency to coagulate upon it, and to adhere to it. The fleshy excrescences found on the valves are often attached to the edges of slits in the valve: the broken surface having probably been the especial seat of inflammation. When the formation of vegetations is recent, they are very soft and frangible. But the most interesting fact that I am acquainted with, in evidence of the mode in which these little projections arise, is one that accidentally came to light in one of Dr. Hope's experiments upon an ass, at which I was present. The aortic valves had been held back by a wire passed into the vessel, with the view of ascertaining the physical

cause of the second sound. The animal was previously rendered insensible by a narcotic poison; and the circulation was kept up—languidly, however, towards the last—by artificial respiration. Upon the final cessation of the heart's motions, the organ was removed from the body and examined: and the valve, that had been mechanically irritated by the wire, was found studded with these little wart-like appearances, which were so soft as to admit of being readily brushed off from the subjacent membrane. Here the deposit took place after the death of the animal, and while some of the functions of organic life alone were kept up by the artificial breathing.

There are still some curious circumstances to be mentioned, connected, in some instances, with the formation of these warty vegetations. I shall not, however, enter upon them in the present lecture; but when I speak, at our next meeting, of rheumatic inflammation of the heart and its membranes.

Any or all of the lesions that I have been describing may and must lead, at length, according to their places and magnitude, to some of those changes in the actual and relative dimensions of the heart that were considered in the last lecture. They obstruct the stream of blood when moving in its natural course, and when its passage ought to be free; or they allow of its *refluent* course, when it ought to be effectually opposed: and the necessary results, in either case, are dilatation of one or more of the chambers of the heart, with thickening, or with attenuation, as the case may be, of its walls. I have already spoken of the symptoms, physical and general, to which these secondary changes give rise; and of the treatment which they admit and require.

There being valvular disease, and that valvular disease giving rise to a bellows-sound, can we distinguish the particular valve affected? Generally, we can. Our skill in diagnosis outruns here, as indeed it too often does, our skill to cure. A few simple rules and considerations enable us, in most cases, to satisfy our natural curiosity to penetrate the exact conditions even of changes that are incapable of repair. These rules relate chiefly to the time when the murmur is heard; to the direction in which it is most audible; and to the state of the arterial pulse.

When a bellows-sound accompanies the systole, it must be caused by a current passing *out* of a ventricle. But serious disease of the valves, sufficient to occasion a murmur, on the right side of the heart, is very rare. In nineteen cases out of twenty valvular murmurs belong to the left side; so that practically the distinction lies, almost always, between two orifices, the mitral and

the aortic, the inlet and the outlet of the left ventricle. The natural inlet has become an outlet also : or the natural outlet is obstructed. Now if the sound be heard at the base of the heart, and along the track of the thoracic aorta, up towards the right clavicle, and even in the carotids ; and if it be less audible towards the apex, and if the pulse be steady and regular, the mischief is seated in the semilunar valves of the aorta : there is some obstacle which produces a ripple in the onward stream of the blood.

On the other hand, if the pulse be irregular, and if the sound is heard better towards the apex of the organ, on the left, it is owing to regurgitation through a diseased mitral valve. Such regurgitation is often attended with a purring thrill.

When, what scarcely ever happens, the sound does result from injury of the semilunar valves of the pulmonary artery, it is heard plainest in the track of that vessel, up towards the left clavicle. So, also, a murmur produced by change in the tricuspid valve would be loudest towards the apex, on the right. The arterial pulse, for obvious reasons, is but little influenced by disease affecting the orifices of the right heart.

Again, if the morbid sound be diastolic, it accompanies the entrance of blood into a ventricle ; and for similar reasons as before, the fault is most probably in the left ventricle. It may be owing to the direct, but impeded, passage of the blood from the left auricle through a narrowed mitral orifice : yet this very seldom occasions any audible noise. Or the diastolic murmur may proceed from regurgitation through the defective aortic valves : the natural outlet having become an inlet also : and this is exceedingly common. We attend, as before, to the situation and the track in which the sound is the loudest. We listen also for the smart clack of the natural second sound ; and if it is not to be heard, or is very indistinct, we have, in that circumstance, corroborative evidence of an imperfect aortic flood-gate. Moreover, we are again assisted by the pulse. The pulse of aortic regurgitation is very striking and peculiar : sudden, like the blow of a hammer, without any prolonged swell of the artery. It always reminds me of the well-known chemical toy, formed by including a small quantity of liquid in a glass tube, exhausted of air, and hermetically sealed. On reversing the tube, the liquid falls from one end of it to the other with a hard short knock, as if it were a mass of lead. The sensation given to the finger by the pulse, when there is much regurgitation through the aortic valves, is very similar to this. It is as if successive balls of blood were suddenly shot along under the finger. Dr. Hope calls this pulse a *jerking* pulse ; the

pulse of unfilled arteries. And this abrupt pulse makes itself *visible* in the arteries ; the wave of blood lifts, and moves, and sometimes contorts the vessel. When this kind of pulse occurs with a diastolic bellows-sound heard in the track of the aorta, and the short clack of the second sound is absent or diminished, you may be quite sure that the aortic orifice is patulous during the diastole. The reflux of the blood, when the patency is great, is strong enough sometimes to produce a palpable shock or jog, called the diastolic impulse. And this refilling of the ventricle from the artery may even provoke it to a supernumerary contraction.

Of regurgitant sounds belonging to the right side of the heart I can tell you nothing. I never heard one, that I know of, from the pulmonic valves. Through the tricuspid orifice the blood is believed to be often reflux ; causing, as I stated before, turgescence and pulsation of the jugular veins. The structure of the valve permits this ebbing movement of the blood under circumstances which might otherwise be perilous. The tricuspid has accordingly been called the *safety* valve of the heart. But the reflux seldom, if ever, announces itself by a bellows-sound.

We cannot always thus rigidly connect morbid changes with definite signs. Disorders arise of which the symptoms are more cognizable and constant than the seat. We assign a name to the peculiar assemblage of symptoms, and make it thenceforth a distinct object of our study : tracing the symptoms as well as we can up to their organic conditions. Now the complaint called *angina pectoris* is one of this kind. It is, moreover, a very curious and interesting disorder ; and I shall devote the remainder of the present hour to its consideration.

This disease was first accurately described, in this country at least, by the celebrated Dr. Heberden, the author of the *Commentaries*. It had been adverted to by many writers before, but obscurely : and Dr. Heberden's observations were quite original. The description that he has given of the complaint, in the second volume of the *Transactions of the College of Physicians*, is very accurate and striking. He calls it a *disorder of the breast* ; and observes, that "the seat of it, and the sense of strangling and anxiety with which it is attended, may make it not improperly be called *angina pectoris*."

"Those who are afflicted with it are seized while they are walking, and more particularly when they walk soon after eating, with a painful and most disagreeable sensation in the breast, which seems as if it would take their life away, if it were to increase, or to continue. The moment they stand still, all this uneasiness vanishes. In

all other respects the patients are, at the beginning of this disorder, perfectly well; and in particular have no shortness of breath, from which it is totally different." Such is the brief description of the malady, given by Dr. Heberden. You will observe, that the distress occurs in paroxysms; and the patient, at first, has intervals of apparent health: and even when the disease is more advanced, he has periods of comparative ease between fits of suffering. The paroxysms are especially liable to come on when the patient is walking, and, above all, when he is ascending—going up a hill. He is then seized, all at once, with a painful sensation, which seems to be, in many cases, indescribable, but which is always referred to the situation of the heart. Sometimes the sensation is spoken of as being a spasm, as giving the patient a notion of constriction; but it always carries with it the impression, that any continuance of the exertion, the stirring another step, would be fatal. Yet the patient is not out of breath. It is not dyspnoea that oppresses him; for he can, and generally does, breathe freely and easily. He lays hold of any neighbouring object for support. His face is pale and haggard; and you would suppose, from his appearance, that he was actually at the point of death. But in the early stages of the disease, the pang soon subsides, the distress is over, and the patient is entirely himself again. However, after the lapse of some time, generally of some months, the anguish does not so instantaneously cease upon standing still; nor does it always require some bodily exertion to bring it on. It will occur when the patient is quiet; even in bed. He feels as if the action of the heart was arrested: and he is obliged to rise up, every night perhaps, for many weeks together. In exquisite cases it will be brought on by causes of any kind that slightly accelerate the circulation: coughing, straining at stool, mental emotion.

The pain, which is at first referred to the region of the heart, frequently extends, accompanied by a sort of numbness, from that part to the left shoulder, and down the left arm; stopping short, in a curious manner, and from some inexplicable cause, either just about the insertion of the deltoid muscle, or at the elbow, or at the wrist. Sometimes, however, it runs down to the very extremities of the fingers; particularly of the last two fingers, following mainly the course of the ulnar nerve. And occasionally similar pains affect the right side and arm. There is (I say) no dyspnoea in the genuine form of the disease; although you will find it stated by some modern writers, of good repute, that the paroxysm is accompanied with difficulty of breathing. In the instances that I have seen, and they have been few,

the patient was able slowly and fully to inspire and expire, even when the fit was on him. The truth I believe to be, that other affections, more akin to asthma, have been confounded with angina pectoris; and this confusion has led to the belief, that it is not altogether so dangerous a complaint as used to be thought: but in its genuine shape it is undoubtedly a very fatal disorder. Dr. Forbes, by a diligent search among authors, has collected some statistical facts respecting it, which are worth remembering. Thus, out of 88 cases, 8 only, or 1 in 11, occurred in females. The ages in 84 of these 88 cases are recorded: and of the 84, 72 were above 50 years; and 12, or one-seventh of the whole, under 50 years. It is a disease, therefore, for the most part, of advanced life: and this alone would afford a strong presumption of its dependence upon some organic change. Again, the event of the disease was recorded in respect to 64 of the patients. Of these 49 died, almost all of them suddenly; while 15 recovered, or were relieved. And among the 49 fatal cases, there were only two women.

That the seat of the disorder is the heart, and that it consists in some structural change, can scarcely be doubted. Yet some pathologists are disposed to consider it a merely neuralgic affection, "commencing, for the most part, in the pneumogastric nerve, and spreading in different directions, as other nerves become involved." But this doctrine is scarcely consistent, in my judgment, with the facts—1st, that the paroxysm is excited by such causes as are "especially calculated to disturb the natural action of the heart, bodily exertion, and mental emotion;" and, 2dly, that the disease is so very frequently and so suddenly *fatal*. This is not at all the character of mere neuralgic diseases in general. And when we add to these facts the further fact, viz. that, in a vast majority of instances, organic disease of the heart, or of the great blood-vessels, has been discovered after death, I think we shall be obliged to admit, that the symptoms are often (for I will not say always) dependent upon cardiac disease. One theory explains the "breast-pang," by supposing that the blood, whenever its movement is accelerated by exercise or otherwise, arrives in the heart faster than it can be transmitted onwards; and accumulating in its cavities, painfully distends them. It is not improbable that the paroxysm may be sometimes so produced. The great Dr. Jenner took a most ingenious view of the matter, which was made public and further enforced by Dr. Parry. He had found, in examining the bodies of some who had died of well-marked angina pectoris, that the coronary arteries of the heart were ossified, converted into bony canals, and constricted in their calibre. He thence concluded, that

the paroxysms result from the circumstance, that, when some increase of the muscular contraction of the heart happens to be called for, the increased supply of blood, rendered necessary by the additional exertion, is not capable of being furnished by the diseased nutrient arteries of the organ ; that the heart comes to a stand, because its muscular tissue is not duly injected with arterial blood : and the phenomena of the paroxysm agree remarkably well with that theory. He calls the disease accordingly *syncope anginosa*. And this simple and beautiful theory was for some time admitted as the true one. However, later investigations have abundantly shewn that angina pectoris may occur in a decided form, without their being any ossification or other disease of the arteries ; and, on the other hand, that the coronary arteries may be ossified, and yet no angina pectoris be the result. I may here again avail myself of the researches of Dr. Forbes, and give you a numerical account of the organic changes in the heart that have been found connected with this disease. The total number of instances collected by him, in which the body was examined after death, was 45. Of this number there was disease found in the liver only, in two instances : organic disease of the heart, or great vessels, in 43. Dr. Forbes, indeed, makes the last number 39, instead of 43, excluding four cases in which nothing morbid was found in or about the heart, except an unnatural collection of fat. This Dr. Fothergill considered the essence of the disease : and certainly a heart cannot be said to be in a healthy condition which is thus loaded with adipous matter. The fat is generally deposited at the expense of the muscular substance, which is apt in such cases to be thin, pale, and soft ; atrophied, in short. Taking, however, the table as it is given by Dr. Forbes, the 39 cases, in which there was no disease except in the heart and great vessels, were thus distributed :—In 10 of the cases there was organic disease in the heart alone : in 3, organic disease of the aorta alone. In one instance only was the disease confined to the coronary arteries ; but there was ossification, or cartilaginous thickening of the coronary arteries, combined with other disease, in 16 instances. Again, there was ossification, or other disease of the *valves* of the heart, in 16 cases also. There was disease of the aorta (ossification, or dilatation, or both), in 24 cases ; and in 12 cases there was preternatural *softness* of the heart.

My friend, Dr. Latham, lately gave me this sketch of a case of angina pectoris, which had fallen under his own observation. It is remarkable for the shortness of its course. A gentleman, about 50 years old, was recovering from the influenza, of which nothing remained but a slight cough, that

troubled him at night. It was to relieve this that Dr. Latham was consulted. The gentleman looked perfectly well. After Dr. Latham had prescribed for this little ailment, the patient begged to see him the next day to talk over with him (he said) a very strange affection he had. Accordingly he then described a paroxysm of angina pectoris in terms that could not be mistaken ; dwelling especially upon the precordial pain, the sensation down the left arm, the sense of approaching dissolution, and then the perfect recovery. This gentleman had, during the previous summer, performed a walking tour through Switzerland, and returned home in excellent health. The first notice of his angina was not more than a month ago, when he was walking up Hampstead Hill. It was then that he had his first paroxysm. In the short period which had elapsed, the attacks had rapidly increased in severity and frequency : occurring now every two or three days, or every day, or several times a day, with or without an exciting cause. Dr. Latham made a careful examination of the chest, and found the respiration perfect, the heart free from all unnatural murmurs, and its beats rhythmical. The only thing that particularly attracted his notice was the exceeding feebleness of its impulse. In the afternoon of the next day Dr. Latham visited him again, when he described a paroxysm he had suffered in the course of the morning, of much greater severity than any that he had hitherto experienced. Dr. Latham saw enough to convince him that his patient's existence was very precarious : and as he had previously been a stranger to him, he inquired about his friends, and took down the address of a brother, intending to call and apprise him of what he feared. On reaching his own home, two hours afterwards, a messenger met him, announcing that his patient had fallen into another paroxysm, soon after he left the house, and was dead. The body was carefully examined by a thorough anatomist, Mr. Stanley. There was no disease of the aorta, or of the heart generally ; but the coronary arteries resembled tubes of coral, being completely ossified as far as they could be traced.

You will perceive, from what has been said, that the prognosis of this singular and formidable affection is extremely unfavourable. The cases are very rare in which no disease of the heart has been detected : and the organic changes that have been found are irremediable, and, for the most part, progressive : and, in point of fact, the greater number of those who have laboured under the disease have died suddenly.

It follows also, as another corollary from the facts now brought before you, that there are very few cases in which we can dare to contemplate a cure. Our remedial measures

must be preventive when the paroxysms are absent: and our object will be to shorten the fit when it is present and protracted.

Now the preventive measures are simple and obvious. The patient must be cautioned to avoid the exciting causes of the paroxysm; walking up hill; or against the wind, which has also been known to produce it. Whatever is likely to hurry the circulation, and, therefore, among the rest, all mental emotion and anxiety, should be guarded against as much as possible. John Hunter died of angina pectoris: and the fatal seizure was brought on by a fit of anger. Care should be taken also to obtain and preserve a healthy state of the digestive organs. It is observable of this, as I mentioned before it is observable of other cardiac diseases, that they are often attended and aggravated by flatulence of the stomach and bowels. Persons labouring under a paroxysm of angina often experience great and sudden relief upon getting rid of a quantity of gas, by which the stomach had been distended. The flatulence acts, no doubt, by pressing the diaphragm upwards, and so diminishing the dimensions of the thorax, and impeding the play of the heart. It is upon the same principle that we must explain the fact, that the paroxysms are particularly apt to come on if the patient walks *soon after a meal*: also that they occur in the night, when he is in a horizontal position, and are relieved by his getting out of bed; that is, by his assuming the vertical posture, and taking off the pressure of the abdominal viscera from the diaphragm.

This is not the place to speak of the treatment of dyspeptic and flatulent stomachs; but I may say, *en passant*, that this distressing symptom may sometimes be prevented by making the patient swallow a couple of pills, formed of six grains of extract of rhubarb, with a grain of Cayenne pepper, the instant before he sits down to dinner.

In the paroxysm itself, bleeding has been fairly tried; but, as I think might have been foreseen, it has seldom been attended with any benefit, and sometimes it appears to have done harm. The affection has a nearer relation to syncope, and often to syncope by asthenia, than to any thing else. That is the way in which the patients die: and consequently cordials, stimulants, and antispasmodics, are found to be of service. Dr. Elliotson thinks prussic acid is the best thing you can administer. Dr. Davies has more faith in belladonna plasters than in most other things. Dr. Copland advises stimulant liniments externally; and warm carminative or aperient medicines, as the circumstances may require, internally. The general condition of the sufferer will suggest, I believe, the proper treatment. Not that it will suggest any particular drug, but it will teach you the main principle on which you are to proceed. If auscultation

reveals any of those morbid states of the heart which were noticed in the beginning of the lecture, the means which I ventured to suggest for remedying *them* may be put in force.*

ON THE NERVOUS GANGLIA OF THE UTERUS.

BY ROBERT LEE, M.D. F.R.S.

[In our number for March 27, 1840, we published an abstract of a paper by Dr. Lee on the above subject, which had been read at the Royal Society. Two gentlemen were appointed to examine into the validity of the author's views, and their joint opinion being unfavourable to Dr. Lee, the paper was not published. Renewed investigations and demonstrations, however, have led to a revision of this decision, and the result is the appearance, in the Philosophical Transactions, of the very interesting paper which we now subjoin.—ED. GAZ.]

IN a communication to this Society which was read on the 12th December, 1839, I described four great plexuses under the peritoneum of the gravid uterus, which had an extensive connection with the hypogastric and spermatic nerves. From their form, colour, and general distribution, and their resemblance to ganglionic plexuses of nerves, and from their branches actually coalescing with those of the hypogastric and spermatic nerves, I was induced to believe, on first discovering them, that they were nervous ganglionic plexuses, and constituted the special nervous system of the uterus.

Subsequent dissections of the unimpregnated uterus, and of the gravid uterus in the third, fourth, sixth, seventh, and ninth months of pregnancy, have enabled me not only to confirm the accuracy of my former observations, but to discover the important fact, that there are many large ganglia on the uterine nerves, and on those of the vagina and bladder, which enlarge with the coats, blood-vessels, nerves, and absorbents of the uterus during pregnancy, and which return after parturition to their original condition before conception takes place.

The uterus and its appendages are wholly supplied with nerves from the great sympathetic and sacral nerves. At the bifurcation of the aorta, the right and left cords of the great sympathetic nerve unite upon the anterior part of the aorta, and form the aortic plexus. This plexus divides into the right and left hypogastric nerves, which soon subdivide into a number of branches to form

* Errata in the last lecture: p. 566, second column, line 27, *after* "may" *insert* "(though it seldom does);" line 31, *omit* "(though it seldom is)."

the right and left hypogastric plexus. Each of these plexuses, having the trunk of the hypogastric nerve continued through its centre, after having given off branches to the ureter, peritoneum, rectum, and trunks of the uterine blood-vessels, descends to the side of the cervix, and there terminates in a great ganglion, which, from its situation and relations, may be called the hypogastric ganglion, or utero-cervical ganglion.

This ganglion is situated by the side of the neck of the uterus, behind the ureter where it is passing to the bladder. In the unimpregnated state it is usually of an irregular, triangular, or oblong shape, with several lobes or processes projecting from it where the nerves enter, or are given off from it. In the long diameter it usually measures from half an inch to three-quarters of an inch, varying in dimensions with the size of the nerves with which it is connected. The hypogastric ganglion always consists of cineritious and white matter like other ganglia, and gray and white nerves issue from it, which proceed to the rectum, bladder, uterus, and vagina. It is covered with the trunks of the vaginal and vesical arteries and veins, and the ganglion has an artery of considerable size which enters it near the centre, and divides it into branches which accompany the nerves given off from its inner surface, and from its anterior and inferior borders. The hypogastric nerve, after separating into a plexus, enters its upper edge, and branches from the third and other sacral nerves its posterior border, and the whole of its outer surface. None of the branches of the sacral nerves pass over the ganglion to the bladder, though some of them enter its anterior edge where the vesical nerves are given off.

From the inner and posterior surface of each hypogastric ganglion, numerous large nerves are given off, which go back to anastomose with the hæmorrhoidal nerves, which accompany the arteries to the rectum, and pass with them between the muscular fasciculi of the organ. An extensive connection is thus established between the two hypogastric ganglia and the nerves of the rectum, and many large broad nerves pass off from the posterior and inferior parts of these ganglia to ramify on the sides of the vagina, and between the vagina and rectum.

From the inferior border of each hypogastric ganglion several fasciculi of small nerves are sent off, which pass down on the sides of the vagina, and enter several large flat ganglia about midway between the os uteri and ostium vaginæ. From these vaginal ganglia, innumerable filaments of nerves, on which small ganglia are formed, extend downwards to the sphincter, where they are lost in a white dense membranous expansion, from which they cannot be separated without laceration. From this great web of ganglia

and nerves on the side of the vagina, by which it is completely covered, numerous branches are sent to the sides of the bladder, which enter it around the ureter. All these nerves of the vagina are accompanied with arteries, and they often form complete rings of nerves around the trunks of the great veins.

From the anterior margin of each hypogastric ganglion, large white and gray nerves are sent off, some of which pass on the outside, and others on the inside of the ureter, and these branches meet in front of the ureter in a ganglion, which may be termed the *middle* vesical ganglion. There are other two ganglia formed on these nerves, one between the uterus and ureter, and the other between the ureter and vagina. These may be called the internal and external vesical ganglia. The ureter is thus inclosed within a great ring of nerve, which resembles the œsophageal ganglion in some of the Invertebrata. The trunks of the uterine artery and vein are likewise encircled by a great collar of nervous matter, between which and the hypogastric ganglion, several large and some small branches pass.

The internal vesical ganglion, which usually has a flattened or long bulbous shape, is formed entirely upon the nerves which pass from the hypogastric plexus and ganglion, and run between the uterus and the ureter. It has an artery which passes through its centre. It first gives off a large branch to the ring of nerve or ganglion which surrounds the uterine blood-vessels; it then sends branches to the anterior part of the cervix uteri, and afterwards a great number of small filaments to the muscular coat of the bladder behind, where it is in contact with the uterus. The internal vesical ganglion then sends forward a large branch which terminates in the middle vesical ganglion.

This ganglion sends off a great number of large nerves to the bladder. Some of these accompany the arteries, and can be seen ramifying with them upon the whole of the superior part of the organ, even to the fundus. Filaments of these nerves, scarcely visible to the naked eye, are seen ramifying upon the bundles of muscular fibres, occasionally forming loops, and inclosing them, or passing down between them to the strata of fibres below. Some of the smaller branches of the middle vesical ganglion do not accompany the arteries, but are distributed at once to the parts of the bladder around the ureter.

The external vesical ganglion is formed entirely upon the nerves which proceed from the hypogastric ganglion, and pass on the outside of the ureter. This is a small thin ganglion, the branches of which are sent immediately into the muscular coat of the bladder. It usually sends down a long branch to anastomose with the nerves and ganglia situated on the side of the vagina.

From the inner surface of each hypogastric ganglion numerous small, white, soft nerves pass to the uterus, some of which ramify upon the muscular coat about the cervix, and others spread out under the peritoneum, to coalesce with the great ganglia and plexuses situated on the posterior and anterior surfaces of the organ. Large branches also go off from the inner surface of the hypogastric ganglion to the nerves surrounding the blood-vessels of the uterus, which they accompany in all their ramifications throughout its muscular coat. Other branches of nerves pass down from the ganglion between the vagina and bladder. Soon after conception the blood-vessels of the nervous ganglia and plexuses now described enlarge, and the ganglia and plexuses themselves expand with the uterus. The long diameter of the hypogastric ganglion at the end of the ninth month measures about an inch and a half.

I have published a full description, with illustrations of the great ganglionic nerves surrounding and accompanying the blood-vessels, and of the ganglia and plexuses situated on the body of the uterus*. The appearances presented in the fourth month of pregnancy by the hypogastric ganglia, and the ganglia and nerves of the rectum, bladder, vagina, and uterus, and also the great plexuses of nerves situated on the anterior surface of the uterus, are seen in the plate which accompanies this paper.

From an examination with the microscope of portions of the plexuses under the peritoneum of a gravid uterus of nine months, which had long been immersed in rectified spirit, Professor Owen and Mr. Kiernan were led to conclude that they were not nervous plexuses, but bands of elastic tissue.

"The tissue of the broad, white, reticularly inter-communicating bands of fibrous matter resembling nerves of the uterus," observes Professor Owen, "consisted of minute fibres, which were solid, smooth, equal-sized, cylindrical, and nearly transparent, irregularly interblended in their course; their diameter does not exceed $\frac{1}{10000}$ th of a line. These bands correspond in structure with the fibrous modification of cellular tissue. The component fibres did not form tubes, nor were their interspaces filled with the primitive granules or cells of the nervous tissue.

In the nerves of the spinal system, the primitive fibres of the neurilema, which closely resemble those of the ordinary cellular and fibrous tissues, are arranged in the form of tubes, and can be distinguished into cylinder and contents. The same structure, on a minute scale, exists, according to

Valentin*, in the sympathetic nerves; but according to the observations of Remak and Schwann†, the component fibres form solid bands and are of a more transparent character than in the spinal nerves, but marked occasionally with swellings, and having granules in the interspaces.

I consider that the difference between the nerves of the sympathetic and the fibrous cellular tissue to consist, as regards their microscopic character, in the greater proportion of the granules or cells in the interspaces of the fine, reticularly interwoven, component fibres of the nervous band; and this difference I believe to exist between the two nerves of the sympathetic system and the white bands of fibrous matter which connect the peritoneum with the muscular substance of the womb, and which resemble a plexus of nerves."

The tubular structure of the ganglionic plexuses on the body of the uterus has since been observed by Mr. Dalrymple, and the perfect resemblance of the uterine nerves to those of the stomach and intestines demonstrated. The following letter contains an account of Mr. Dalrymple's microscopical examination of the uterine nerves.

6, Holles Street, April 21, 1841.

My dear Sir,

After having seen and very carefully examined some weeks since, your very beautiful preparations of the nerves of the impregnated uterus, and after having felt convinced by their continuity, colour, texture, and mode of distribution, that they really were nerves, I was a good deal surprised to hear from you, and others, that their identity had been doubted. I was aware that it would have been worse than useless to have asked you for a portion of such suspected cords to submit to the microscope, knowing that they had been very many months immersed in strong alcohol. It would neither have been fair to you, nor satisfactory to me, to have made such an attempt at solving the question.

Being anxious, however, to satisfy myself upon the subject, I obtained an uterus (unimpregnated), and while it was quite recent, I traced several nerves, which I recognised, from their situation round the ureter, and upon the body of the uterus, to be similar to some you had previously pointed out to me. These filaments I submitted to the microscope, and used a very beautiful eighth-of-an-inch object-glass made by Ross. I found that it was impossible, with the most careful dissection, to detach any filament of nerve without including a quantity of cellular and elastic tissue; so that although the tubular portion, indicating the nerve,

* The Anatomy of the Nerves of the Uterus. London, 1841. Fol.

* Repertorium, iii. p. 76.

† Mikropische Untersuchungen, p. 179.

was distinct, yet it was surrounded by innumerable extremely minute threads, coiled and contorted, such as one finds the component of elastic tissue, and the ultimate element of cellular membrane.

Under slight pressure, however, the tube was plainly discernible, containing granular matter, not uniformly distributed, but collected in minute masses at intervals. Small blood-vessels were also seen here and there, with blood-disks within them, which served to indicate the difference between the nervous and vascular tubes, and thus to avoid the possibility of error.

Being, however, aware that some of the most distinguished foreign microscopical anatomists had differed as to what was the real characteristic of nerves of the sympathetic system, I should not have troubled you with this communication had I stopped here.

Feeling, from this discordance of opinion, that there was no absolute test, or at least one which was not open to cavil, I thought to try a comparison of the uterine nerves with those that undeniably belonged to the ganglionic system. I traced, therefore, some nerves upon the surface of the stomach, up to the great ganglion that gave them origin; and I selected some also from the small intestine. These I submitted to the same microscopical power, and under the same circumstances of light, and pressure and medium.

In all of these I observed the tubular part filled with granular matter, and similarly collected in minute masses.

I also observed that each tube was surrounded by the minute serpentine threads before described. In fact so closely did they agree, in every particular, with the appearances presented by the uterine nerves, that it would have been impossible to distinguish the one from the other.

Thus by comparing the unknown with the known, despite the want of any absolute test, I feel perfectly satisfied of the true nervous character of the very beautiful plexuses you have so patiently and with so much labour developed.

Admitting then this intricate structure to be really nervous, it is a matter of no marvel that they increase in size during pregnancy. It would indeed be wonderful if the nerves alone remained stationary, while the muscular and cellular, the serous and mucous, and the vascular tissues increased, as it is notorious those structures of the uterus do during the period of child-bearing.

If, as is also indisputable, nerves shrink and atrophy when the function of an organ they supplied or lost is destroyed, is it singular that the uterine nerves should increase, when that organ rouses itself from inaction, to one of the most extraordinary exemplifications of temporary functional vigour that

the animal œconomy can anywhere exhibit? Pardon me this prolixity, and believe me,

My dear sir,

Yours very faithfully,

JOHN DALRYMPLE.

Dr. Robert Lee, F.R.S.

Explanation of the Engraving.

[See next page.]

Posterior and lateral view of the gravid uterus in the fourth month of pregnancy, of the vagina, rectum, and bladder, with their ganglia and nerves.

A. The fundus and body of the uterus covered with peritoneum.

B. The vagina.

C. The bladder.

D. The rectum.

E, F. The ovaria.

G. The great sympathetic nerve where it divides into the two hypogastric nerves and plexuses. The arteries and veins of the great sympathetic are all injected in the preparation from which the drawing has been made. A little above the bifurcation of the great sympathetic nerve, there is a deposit of encephaloid matter in its substance, and the nerve itself is enlarged as high as the kidneys.

H. The right and left hypogastric nerves and plexuses. The artery of the right is injected, and accompanies the nerve to the great ganglion at the cervix in which it terminates.

I. The left hypogastric or great utero-cervical ganglion, with an artery passing into it near the centre.

J. The third and other sacral nerves, sending numerous large branches into the posterior border of the ganglion, and the whole of its outer surface.

K. The hæmorrhoidal nerves accompanying the arteries to the rectum, and sending numerous branches to anastomose with nerves sent off from the posterior edge of the ganglion.

L. Branches of nerves with ganglia sent off from the left hypogastric nerve, which pass down on the inside of the ureter to the trunks of the uterine artery and veins, and enter ganglia which surround these blood-vessels.

M. The left ureter, with a nerve accompanying it, which passes into the vesical ganglion, situated on the anterior part of the ureter.

N. Rings of nerve, surrounding the uterine blood-vessels.

O. The middle vesical ganglion, into which large nerves enter, which are sent off from the anterior border of the left hypogastric ganglion, and pass on the outside of the ureter.

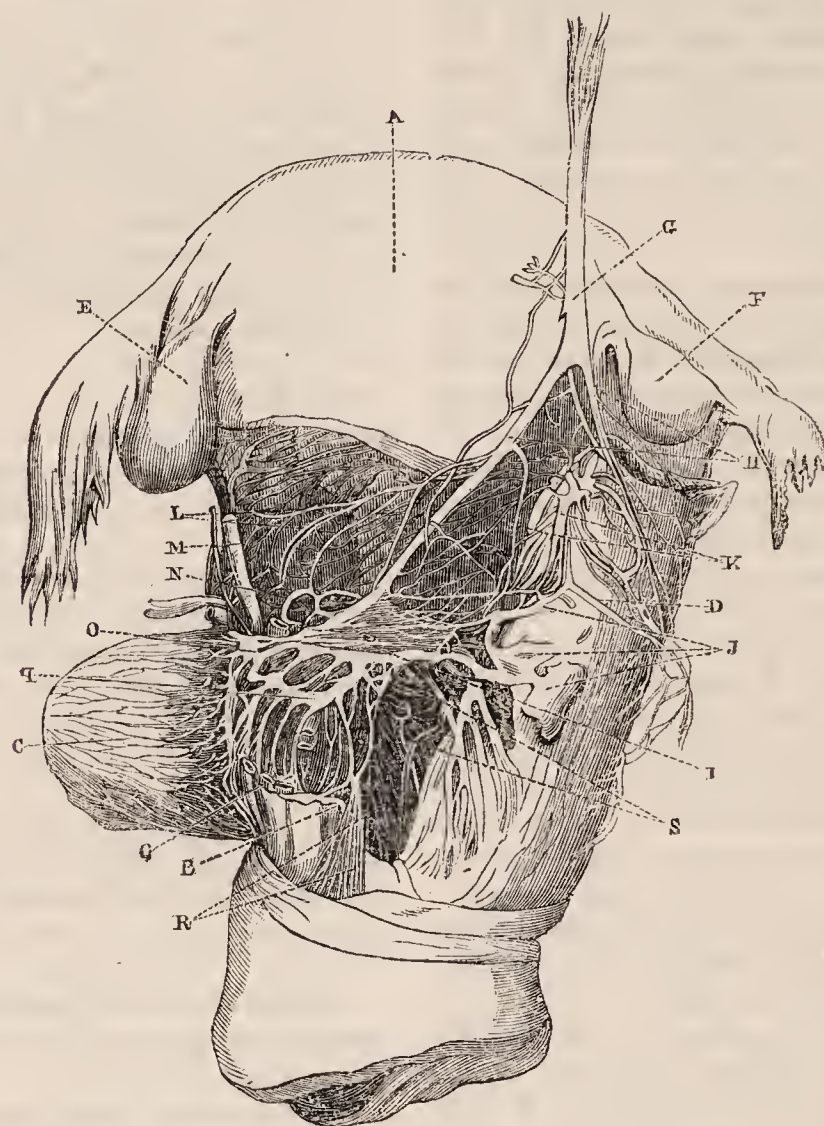
P. Broad flat ganglia, formed on the

great plexus of nerves which covers the upper part of the vagina.

Q. The orifices of the divided veins of the vagina, which are completely encircled with ganglionic plexuses of nerves.

R. Filaments of vaginal nerves passing under the sphincter.

S. Large nerves covering the posterior wall of the vagina, and anastomosing with the hæmorrhoidal nerves.



ON DEAFNESS

FROM MORBID CONDITIONS OF THE MUCOUS
MEMBRANE OF THE STOMACH AND
THROAT.

BY JAMES YEARSLEY, Surgeon.

(Continued from page 592.)

(For the Medical Gazette.)

BEFORE entering on the treatment of deafness proceeding from morbid conditions of the mucous surfaces, it will not be out of place to give some attention to the best means of warding off the disease in cases where the predisposition to it exists. Prophylactic measures are of great importance; because at least two-thirds of the gross amount of deafness is of slow progress, and generally spreads over so long a time, that an excellent field is offered for defensive operations before it becomes confirmed.

Timely attention, such as persons generally are able to command, would greatly lessen the number of the deaf and incurable. Unfortunately, it is common for those who are threatened with loss of hearing to argue, that, from the tardy advance of the evil, the causes producing it cannot be very powerful, or deeply seated; and they flatter themselves that time of itself will bring relief rather than aggravation. Thus it is, that thousands, by culpable neglect, throw away the invaluable chance of recovery held out by early treatment and prudential self-regulation. The tissues of the ear are so solid, and the organ so much isolated, that when once a diseased habit has been established within it, it is only with the greatest difficulty the enemy can be dislodged. Nothing more surely proves the slow-stealing advance of deafness (in a general sense), than

that very few of the deaf are able to assign the precise date of their misfortune. They can usually remember, that, long before they considered themselves deaf, there were times, as in damp states of the atmosphere, while eating food, or when the back was turned to the voice to be heard; when conversation in a large room, or in the society of several persons, required unusual attention to be understood: when words containing certain consonants, as *b* or *r*, were sometimes taken for others; and this being the case especially with the names of persons: when the voice of a stranger, or conversation in a strange room, would be less intelligible than a voice in a room to which the hearer had been accustomed. These things are interesting as being among the first signs of failing hearing. On their first manifestation, it would always be well to place the auditory organ in the best possible state of defence. As the mucous membrane is the chief point affected by injurious influences, all causes that act upon it should be held in apprehension; and cold or humidity, as being by far the most frequent of these, and affecting the ear in the greatest variety of forms, should be guarded against with sedulous care. Cold invariably injures an ear possessing the least tendency to disease; while exposure to dampness has a two-fold ill effect. By relaxing the membranes, it occasions present deafness, besides its after-injury, as a refrigerant, by producing disease of the mucous membrane. When deafness has once commenced, every fresh catarrh will be certain to add more or less to its intensity. Sudden transition from heated assemblies to the cold air, or from the latter to a high temperature, being much more likely to occasion cold than long exposure either to an uniform high or low temperature, should be avoided as much as possible. I have known persons liable to catarrh, who guarded against it effectually, by never entering a warm room from the open air, in cold weather, without lingering a minute or two in the hall or lobby, and observing the same precaution on passing out from heated apartments.

An eminent member of the House of Commons once assured me, that he believed three-fourths of that assembly to be affected with deafness, in one or

both ears, in a greater or less degree. This is perhaps too much to say of the whole house; but from what I have seen, I feel no doubt of its correctness if applied to those members who are regular in their attendance, and have sat many years in parliament. The late hour at which the house adjourns, and the incautious habit of many of the members, who, after the heat of a protracted and exciting debate, prefer a *cool* walk home, fraught with danger, to the comfort of a carriage, are quite sufficient to account for the prevalence of deafness among our legislators. The same danger is incurred by an habitual attendance at theatres, or other crowded assemblies. A stream of cold air upon the head, when the rest of the body is heated, has been known to cause severe deafness with great rapidity, and therefore should never be encountered when the symptoms of approaching deafness have shown themselves. Washing the ears in cold water, pouring cold water into them, as is sometimes done by way of practical joke; having the hair cut short in cold weather; washing the hair in cold water; sleeping with the head uncovered; cold bathing of any kind. These are some of the most prominent things to be avoided in early deafness; and the violation of any of the precautionary measures, suggested by a knowledge of these circumstances, is sure to aggravate the loss of hearing.

At the commencement of deafness, when almost every thing may be expected from regimen, the most strict attention to dietary rule should be observed. Regularity and moderation in eating and drinking, the avoidance of all causes of indigestion, are as necessary in this as in many of the more serious forms of disease. Besides the ordinary management of the stomach there are certain things which are especially injurious to the deaf by producing an unwholesome state of the mucous membrane of the throat. The use of salted meats do this; the same may be said of malt liquors, and of a favourite beverage, namely, coffee. When there is the least tendency to irritable throat, the irritability and secretion are manifestly increased by even the moderate use of malt liquors. In excess all spirituous drinks have this effect; but I have found weak sherry and water, or very dilute brandy and

water, the least objectionable. I am not aware that any previous remark has been made on this subject, but a single cup of coffee will increase deafness for many hours in nine cases out of ten : and this effect is produced in greater degree when drank in the morning, or immediately after dinner, than at any other time. It seems, to use the language of patients, "to make the ears feel dull and heavy."

When persons are actually growing deaf, they usually feel great anxiety upon the subject ; and very often it is not till the malady has progressed that they find it much the wiser plan to encourage serenity of mind, and give their care to checking the disorder, instead of encouraging hurtful despondency. If it were necessary a great deal might be said about the injury inflicted by the indiscriminate use of the many nostrums in vogue for the relief of deafness. Few persons who are decidedly deaf but are able to attribute an increase of their malady to some application of this class. Nearly all of them are placed for their curative effect in the external meatus ; and the great majority possess sufficiently irritating properties to cause a degree of inflammation of the lining of the passage, and external surface of the membrana tympani. No application to the external meatus can produce any decided change in the state of the middle ear, which is the most frequent seat of disease ; the most such means can do is to excite the whole auditory organ, and consequently the acoustic nerve, so as to render it for a time morbidly sensitive to sound, but which sensitiveness disappears, and falls even below the natural standard, when the effect of the stimulus is exhausted. Unfortunately the risk has also been run, besides over-stimulating the nerve, of rendering the membrana tympani inelastic and insensible. A very slight cause of irritation on the surface of the drum itself temporarily exalts the faculty of hearing ; even touching it with the blunt point of a probe renders hearing more acute for a short time. This fact will account for the temporary advantage in hearing which patients generally experienced by the rubbing in of an ointment into the external meatus, by means of a soft instrument, as practised pretty extensively some time ago by a well-known London physician.

Few left his house who did not for the remainder of the day hear noises louder ; but, alas ! the improvement was deceptive. It subsided with the stimulus of which it was the effect.

If attention to the ears be necessary in the commencement of deafness generally, it is especially so in the form of impaired hearing combined with otorrhœa, if of gradual origin. This is, of all aural diseases, the most difficult to arrest when it has existed a long time ; though, at its outset, the most simple means will often suffice for its removal. It commonly begins with a depraved state of the ear-wax, and a sense of dryness and itching in the ears, which impel the sufferer to scratch the meatus with pins, &c. and thus provoke instead of warding off the disorder. Protection of the meatus from cold, and the use of a solution of nitrate of silver, two or three grains to the ounce, carefully applied with a camel-hair pencil, would generally remove these premonitory symptoms of ear-discharge ; and even if discharge has supervened, it will still be the appropriate remedy. Under the idea of protecting the ear from cold, whether discharge exists or not, many plug up the ear with cotton or wool. This is injurious, by raising the heat of the part, and increasing the discharge when present ; and, in any case, the plugging of the meatus is sure to increase the deafness, by preventing the due access of sound to the membr. tympani. Whenever wool is resorted to for protection (and it is often of great service), it should be placed lightly in the hollow of the auricle, not in the external meatus.

In the incipient stage of deafness, travelling, so as to produce fatigue, should be avoided. When deafness is fully established, there is a class of deafness in which the hearing is much more acute from being excited by the noise of a carriage ; but while the malady is in its infancy, a long land journey will seriously increase it, by the continued rattle and noise to which either coach or railway travelling is subject. When travelling is indispensable, I recommend the ears to be filled with cotton wool, so as to guard the organ from the ill effects of continuous noise.

I take this opportunity of throwing out a hint respecting that peculiar form of deafness in which the hearing be-

comes good while a loud noise is kept up in the vicinity of the ear. The case of Willis will be remembered, in which the patient could not hear well enough to join in conversation save when a drum was beaten beside him. This singular phenomenon has been either left unexplained, or referred to torpor of the acoustic nerve; and the increase of hearing to its temporary exaltation by loud sounds. I consider it a more rational explanation, that great relaxation of the tympanic and fenestral membranes is present in such cases, and that the beat of a drum improved the hearing by its first impression on the memb. tympani, causing, by a reflex action, an active state of the small muscles of the ear, the contraction of which would draw all the membranes concerned in the propagation of sound into a state of tension and sensibility to sonorous impulses.

To return to my subject.—The observance of early hours in retiring to rest is most essential to all who are threatened with deafness. Among the higher classes it is astonishing to see the amount of evil inflicted upon those, with hereditary or acquired tendency to loss of hearing, by their implicitly becoming votaries of fashion in this respect.

In the treatment of confirmed deafness, the strictest regard should be paid to the cause of the disease, and the stage to which it is applied. When there is a subinflammatory condition of the throat, with a sensation of heat in the fauces, or heat and pain in the ear, or when the introduction of a silver catheter occasions pain at the mouths of the Eustachian tubes, local depletion is the great agent in removing the disease of the mucous membrane, and preventing the perpetuation of the deafness. Leeches applied once or twice a week for a considerable period, either behind the ears, or within the nostril to the sides of the septum narium, followed, as the disordered state of the throat diminishes, by a succession of small blisters or the moxa along the inner margin of the jaw, or dry cuppings behind or upon the ears, form the best modes of treatment for this the most frequent form of deafness. When the pain is more acute, of a throbbing character, and accompanied by tinnitus, of a ringing or pulsatory kind, recourse should be had to cupping, either behind the ears, or on the nape of the neck. At the same time

all the prominent causes of deafness should be rigorously avoided; a light nutritious diet adhered to; while tonics and *non-mercurial* aperients should be prescribed to give energy to the system.

As the progress of ear-disease is generally lingering and slow, so also is its removal usually a work of time, under the most favourable circumstances. More good is effected by the steady pursuance of moderate means, than by sudden and violent assaults upon the seat of disease. The depletory treatment should be continued at least until the entire disappearance of pain from the ears, or vicinity of the Eustachian tubes, and until the gorged condition of the mucous membrane of the throat and nasal cavities has subsided. During the prosecution of the local antiphlogistic plan, catheterism should be resorted to, when it can be performed without giving pain, and the air-douche moderately applied to dislodge any inspissated mucus which may have accumulated in the tympanum or Eustachian tube; but as long as depletion is necessary, catheterism can only be used as an adjuvant for the purpose I have mentioned. If the introduction of the catheter causes pain, an occasional emetic will prove the best substitute, though it does not so effectually relieve the tympanic cavities of mucus. The state of the mucous membrane of the throat is sometimes much improved by the action of emetics. These means, judiciously varied or combined, according to circumstances, will generally serve to subdue ear-disease of the kind pointed out, or, at all events, ameliorate the deafness to a considerable degree. I should mention that, after hearing has once been seriously impaired, it rarely or never regains its pristine acuteness. The cure can only, in the majority of cases, be considered as comparative, though often quite sufficient for the purposes of ordinary communication.

In this form of disease, acute otitis is very liable to supervene, requiring a most energetic antiphlogistic treatment, by means of abstinence, purgatives, and local depletion, sufficient if possible to alleviate the pain, and prevent its termination by suppuration through the membrana tympani. When this latter accident has happened, the hearing often returns; and the discharge, with perforation of the membrana tym-

pani, may continue a patient's life-time, by attention and cleanliness, without any considerable deafness. If the discharge disappears, and the membrane cicatrizes after suppurative perforation, which frequently happens, though it has been a subject of doubt, deafness has occurred in every case of the kind I have witnessed.

Since the publication in the MED. GAZETTE, of my paper on perforation of the membrana tympani, and the proper cases for its performance, I have met with a most interesting case, which singularly confirms my view of the applicability of the operation to certain cases. It occurred in a mechanic, who had many years before his application to the institution suffered from otitis, with suppuration through the membrane, which, after some time, closed, the discharge ceasing at the same time. When he came to me he had a second attack of inflammation of the ear, and I found that, from the stoppage of the discharge, after the first attack, to the commencement of the second, twenty years had elapsed, during which time he had suffered from deafness. When I saw him first (in the second attack) the otitis was so far advanced that suppuration speedily came on, and the moment the membrana tympani was ruptured the hearing was very considerably restored, showing most satisfactorily that the cicatrized membrane had been the cause of deafness, and that a fair chance is afforded by puncture, or rather by trephining the membrane, in cases where it can be gleaned from their history that there has been discharge from the middle ear, followed by cicatrization. In the case referred to, I took means to maintain the opening through the membrana tympani, and the man has ever since retained an excellent degree of hearing.

Stricture of the Eustachian tube.—When this exists (and it does exist much more frequently than is generally admitted) it does not follow that the recovery of hearing is impossible. I believe the removal of the stricture ought to be attempted on the same principles as when present in the urethra. Dilatation with a bougie has not only been said to be a hopeless undertaking, but the possibility of passing one into the tympanum has been denied. I admit the great difficulty of

the manipulation; but still I have often succeeded in passing a fine whalebone bougie, as proposed by Gairal, into the tympanum. When it has been accomplished the patient has felt as if the point of the instrument actually presented at the external meatus, and the sensation is so deceptive, that it is usual to see him put up his finger, thinking to touch it. But to place the matter beyond all doubt, I have in more than one instance seen the instrument by means of the speculum and lamp, its black colour showing plainly through the semi-transparent membrane of the drum. When, therefore, from the inability of injecting air, the absence of mucous gurgling, and the deafness supervening on sore throat, there is reason to believe that stricture of the tube exists, the use of the bougie should certainly be had recourse to, and will unquestionably sometimes be of service. Iodine ought also to be administered in the manner and with the intention proposed by Dr. Manson.

Polypus in the outer passage and middle ear.—Much has been said concerning this troublesome and frequent accompaniment of ear-discharge. Some have recommended astringent or caustic applications, others the ligature, and some their excision by the knife. Their removal, however, is most easily effected by means of a common forceps. The blades of the instrument should be insinuated along the sides of the polypus, as near to the point from which it sprouts as possible, so as to enclose its whole length; and then, by pulling and slightly twisting, it may generally be brought away altogether. Those who recommend ligatures in such cases can scarcely know much about the matter; for all the polypi that have grown to such an extent as to present at the outer orifice of the passage, are so impacted within it as positively to show the indentations and convolutions of the meatus upon their surfaces when extracted. The impossibility of putting a ligature round their neck or root must therefore be evident. The knife, for the same reason, cannot be used. Besides, after all it is making much ado about nothing; for the removal of polypi from the ear is one of the safest, most simple and least painful operations connected with aural surgery. Every case on which I have operated has done well. A strong solution of zinc or

alum applied with a camel-hair brush, or powdered zinc blown into the ear through a quill, are the best applications to prevent the re-growth of the polypus. When the diseased growth is in its incipient stage, a careful inspection of the meatus is necessary to make it out exactly, for it either springs from the wall of the tympanum itself, or from the posterior surface of the meatus near the margin of the membrana tympani. Surgeons should accustom themselves to look into the external meatus, as considerable practice is necessary to enable them to see any change which may exist at the bottom of the meatus. Some time ago the daughter of a clergyman consulted me for an otorrhœa of some standing, which, on examination, I found to be complicated with polypus deep in the meatus. I recommended that its removal should be attempted; but before submitting to the operation she was advised by her friends in the country to take the opinion of two other surgeons, which she did, both of whom decided that no polypus existed. Mr. Maule had previously seen her, and gave his opinion that a polypus would at no distant date probably arise in the ear. On her return to me I made another careful examination; first gently syringing the ear with tepid water, to remove the purulent secretion which enveloped the polypus. When the meatus was dilated with a speculum, and the concentrated rays of my lamp thrown into it, it became plainly visible even to the friends of my patient who accompanied her, and admitted of my passing a probe round its root, so as to be made sensible to the patient's feelings. The oversight I have no doubt occurred from not removing the discharge which surrounded the polypus, and trusting to daylight and the unassisted eye.

With respect to tonsillary enlargement inducing deafness, by interfering with the integrity of the Eustachian tubes, and keeping up a morbid condition of these and the tympanal cavities, I have before remarked that the diseased growth from its position is often more palpable to the touch than the eye. For this reason the taxis should always be used when the throat is supposed to be implicated. When the tonsils are arrived at a state of induration, operative means are indispensable

for their removal. Previous to this condition, local bleeding, counter-irritation, emetics, and iodine, will be found the most successful remedies. In my earlier operations for the removal of these morbid growths, I tried all the means recommended by authors: ligature, caustic, the guillotine knife, common bistoury, and scalpel, with none of which I could be satisfied. It seemed to me that a strong knife was necessary, which would not bend as the probe-pointed bistoury often does when opposed to an indurated tonsil, nor tear in the scissors-like manner of the guillotine; an instrument which, however specious in its appearance, will be found altogether inapplicable in practice except in the rare cases where the tonsil is pendulous; and the same, I believe, may be said of any apparatus for the application of ligatures. The scalpel I rejected because of the danger of wounding the back of the throat with its point. To avoid these various objections, I imagined the knife represented in the diagram, (p.662) which, with its hawk-billed extremity, strong back, and being placed at an angle with its handle, gives the operator, with the use of the powerful springed tenaculum, complete command over the growth he is about to excise. To assure my readers of the perfect adaptation of the instrument, I need only remark, that I have now removed upwards of 1300 morbid growths from the throats of more than 700 patients variously afflicted with the evils to which these enlargements mainly contribute or entirely give rise; such as imperfect, thick, and nasal speech, difficult deglutition, impeded respiration, throat-cough, throat-deafness, and though last, not least, the imperfect development of health and strength in youth through their influence. I have performed this large number of operations with these instruments without one failure or accident. If surgeons generally were aware of the entire safety and simplicity of the operation, its more frequent performance would, I am sure, soon put an end to all debate on the description of instruments to be employed.

I am in the habit of performing the operation thus: I place my patient opposite a good light, with the head leaning against the breast of an assistant, and having requested that the mouth be opened to the utmost possible

extent, I introduce the powerful springed tenaculum represented in the diagram (held in the right hand if about to excise the left tonsil, in the left if the right) over the tongue, and including within its grasp as much of the morbid growth as possible. I then draw out the diseased tonsil from between the pillars of the fauces diagonally across the throat, and over the bridge thus formed I introduce the knife held like a pen. As I cut, forwards towards myself, I keep slightly dragging at the tenaculum, so that when the excision is completed, the morbid growth, tenaculum, and knife, are all drawn together at the same moment. The operation takes less time than will the perusal of this brief description of its performance.

From the earliest period at which I came to be consulted in cases of deafness, I have never omitted to take notes of the most important features of every case. I was aware that my attention had become directed to a subject upon which little could be learned by reference to the opinions and practice of my predecessors, and I may even say of my contemporaries. I have therefore long felt I must depend upon my own powers of observation and judgment, however humble, to guide me in the choice of remedies, and a comprehension of the nature of aural disease. I have used the opportunities I have had to the best of my ability, and in these papers have stated the conclusions I have been led to form, and the reasons upon which they are founded. On no subject in the whole range of medicine does there exist, I am persuaded, so much misapprehension and error as on diseases of the ear. My highest ambition will be gratified if I have contributed towards the simplification of the subject, or brought it more within the notice and control of the general practitioner.

The memoranda of cases to which I have referred place me in a position to collate some interesting statistical details, which, I flatter myself, will be thought confirmatory of the views and deductions I have arrived at relative to the important part played by the mucous membranes in the production of aural disease.

Of the two statistical tables which follow, one is drawn up by myself from my case-book of private practice; the

other, compiled with data corresponding to my own, by a medical friend, to whom I entrusted the admission-book of the Ear Institution for the purpose.

The most striking circumstance shewn by these tables, is the greater number of males afflicted with deafness. Perhaps the real disparity is not so great as these numbers would seem to shew, for I believe men are generally more prompt in seeking assistance than women. Still, I have no doubt that the male sex is most subject to deafness, from their greater exposure to cold and other causes of deafness.

From the age of 10 to 30 would seem to be the time at which the ear is most frequently attacked; of the 2000, 787 cases, or upwards of one-third, occurred between those ages.

Ear affected.—Few persons have the left ear so acute of hearing as the right. In cases where the disease was confined to one ear, the proportion is, deaf in the left ear 102, in the right ear 64. Unfortunately I have no notes of the number of cases where the deafness afflicted both ears, but differed in degree. From general observation, I believe that in a very considerable majority the left ear would be found *most* affected.

From the time deafness had already existed in the cases treated, it may be gathered how extremely neglectful persons generally are over the sense of hearing. Of the poor patients at the Institution, 342, more than a third, had been deaf from 6 to 20 years. Of the higher classes, a somewhat larger proportion had been deaf during the same time. Until this unfortunate feature of deafness is reformed we cannot hope that deafness will cease to be considered as generally incurable.

The statistics of the causes of disease appear to me to confirm, in a remarkable manner, the opinions I have advanced. In how few of the disorders included among the causes of deafness are not the mucous surfaces connected with the ear the only parts implicated which could reasonably be supposed to affect the auditory sense! Take all the causes which could primarily affect the solid tissues of the ear or the acoustic nerve, and what a minority would they form of the aggregate!

The immediate object of my papers, which concludes with the present, has

TABLE I.

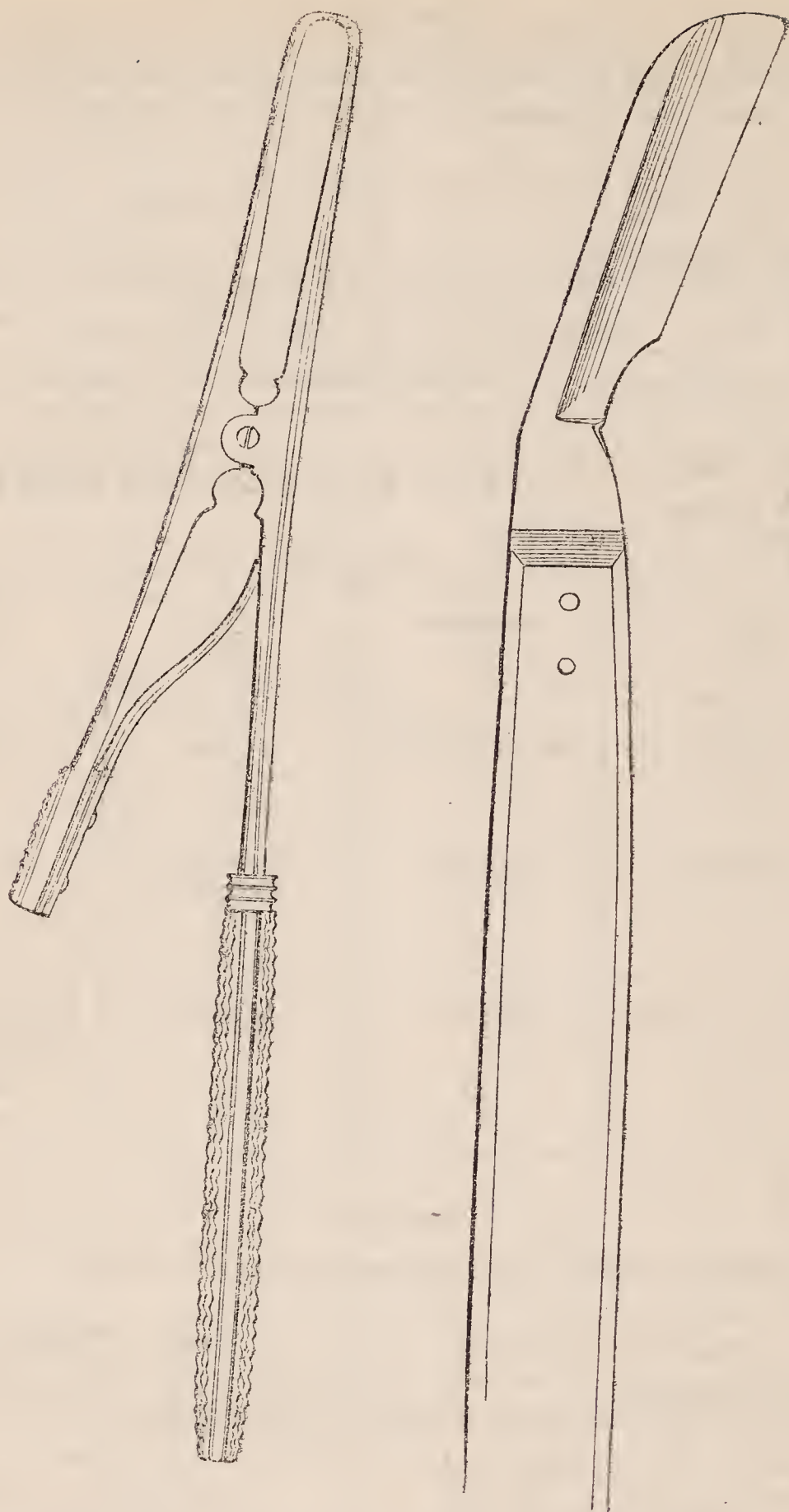
Statistical Details collated from Memoranda in my Case-book of the last 1000 Cases which have come under my observation in private practice.

Estimate of Sex.	Males, 696.					Females, 304.				
of Age.	Under 5 years of age, 25	Between 5 & 10, 46	10 & 20, 132	20 & 30, 169	30 & 40, 171	40 & 50, 163	50 & 60, 96	60 & 70, 125	70 & 80, 59	80 & 90, 14
of Ear.	Left ear affected, 54.			Right ear affected, 41.			Both affected, 905.			
of duration.	Disease under 1 year's duration, 162	Between 1 & 3 years', 73	3 & 6, 192	6 & 10, 115	10 & 20, 234	20 & 30, 151	30 & 40, 49	40 & 50, 15	50 & 60, 7	60 & 70, 2
of presumed causes.	Cold, 365		Dyspepsia, 124		Scarlatina, 132		Measles, 37			
	Small-Pox, 15		Hooping-Cough, 5		Fever, 27		Cutaneous diseases, 23			
	Erysipelas, 30		Bathing, 67		Mercurial Medicines, 43		Neuralgia, 12			
	Anxiety of Mind, 17		Debility, 28		Lying-in, 10		Firing of Artillery, Loud Noises, and Accidents, 65			

TABLE II.

Statistical Details arranged from the Entry-book of the Ear Institution.—1000 Cases.

Estimate of Sex.	Number of Males, 622.					Number of Females, 378.				
Age of patient.	Under 5 years, 26	Between 5 & 10, 70	10 & 20, 222	20 & 30, 264	30 & 40, 157	40 & 50, 127	50 & 60, 76	60 & 70, 40	70 & 80, 15	80 & upwards 3
Ear affected.	Deaf in left ear only, 48.					Deaf in right ear only, 23.				
Period of deafness.	Under 1 year's standing, 197	Between 1 & 3 years', 161	3 & 6, 196	6 & 10, 164	10 & 20, 178	20 & 30, 65	30 & 40, 28	40 & upwards. 11		
Causes of deafness.	Deaf from Cold, 446			Deaf from Scarlatina, 90			Deaf from Measles, 65			
	Deaf from causes unassigned, 210.									
	Deaf from various causes, including anxiety of mind, mercurial medicines, fever, bathing, accidents, lying-in, &c. &c. 189.									



been to draw the attention of the profession to the connection of the mucous surfaces with ear-disease. It, however, occurred to me that a few remarks on treatment would be acceptable. I am well aware how imperfectly this has been done, but I have feared to encroach too much on the valuable pages of the *MEDICAL GAZETTE*, and have, therefore, confined myself to a mere

outline, trusting that at no distant period they will again be open to me to treat the subject in a manner more commensurate with its importance.

29, Sackville Street, Dec. 23, 1841.

ON THE OPENING OF THE TEMPORAL ARTERY.

BY HUGH CARMICHAEL, A.M.

Member of the Royal College of Surgeons, Ireland; one of the Surgeons of the Coombe Lying-in Hospital.

(*For the Medical Gazette.*)

I KNOW not whether the method of opening the temporal artery I have here to propose has been hitherto noticed by any person; this, however, I am certain of, that if so, but very few are as yet acquainted with it; and as it is one which may be depended on for the abstraction of blood from the branches of that vessel to any amount ordinarily required, except, perhaps, where the branch to be opened may be very unusually small, with the further advantage of being, in every instance, and in the hands of every person, easily and successfully performed, the present communication, if even I have been anticipated in it, but which I am led to think I have not, will at least have the advantage of making a means of carrying into effect so very useful and efficient a remedy, much more generally known than it is.

The great advantage to be derived from an effective bleeding from this vessel is so well understood that I deem it unnecessary here to dwell upon it. In some of the severer forms of ophthalmic inflammation, it often cuts short a disease which otherwise may not only be very protracted, but where permanent injury may be sustained by the organ in consequence of that protraction. There are also occasional cerebral, and other affections unnecessary to relate, wherein its full employment is of the utmost importance. I believe, however, I am correct in saying that, as the operation is now performed, it frequently occurs, from the difficulty of executing it, that the supply obtained is altogether insufficient for our purpose, or, perhaps, that it fails altogether, and thus are we sometimes deprived of the advantage of a remedy which we know would be efficient did we know only the means of obtaining it—except where the main trunk of the vessel is opened, but which, in many instances, is productive of very embarrassing results.

By the plan, however, I shall here

speak of, it will be found that every difficulty in the operation will be avoided, and that by means of it any quantity of blood can always and easily be obtained from even the smallest branch usually met with.

In order the better to understand our subject, it will be necessary to make a few preliminary remarks on the mode at present adopted for the opening of this artery, the principle upon which the operation is performed, and the difficulties that present themselves to its effective results: I shall then state the plan I propose to substitute for it, and the advantages to be obtained from its employment.

The operation for opening the temporal artery is at present performed in accordance with the explanation of Dr. Jones as to the manner hæmorrhage is spontaneously arrested when an artery is completely divided.

The investigations of that physiologist have shewn, that when an artery is so circumstanced, several results ensue, all of which tend to arrest the bleeding from it.

In the first instance, in consequence of the elasticity of its coats, the divided extremities part from each other; thus causing them to retract within the sheath of the vessel as it is termed, so as to leave a cylindrical membranous space between them: and further, in consequence also of this elasticity of its nature, these divided extremities narrow or contract on themselves at the point of section, diminishing thereby the calibre of the vessel at these points, while beyond them its capacity remains unaltered.

The blood, however, is poured out through a divided artery; but in consequence of the partial arrest it experiences at the narrowed cut extremities, as also probably of the effect of its transit through the unorganized membranous sheath, it quickly undergoes the spontaneous change that takes place in it when removed from the body; it loses its fluidity, and clots; gradually but effectively.

This clotting occurs as well within the vessel itself to some distance (the next offsetting branch) as in the sheath without it; and when complete, which in small arteries is soon the case, opposes an effectual barrier to its further escape; thus spontaneously and effectively arresting the bleeding.

These changes, it is to be observed, only obtain when the artery is completely divided; if the opening of it be but partial the development of the sheath, as also the narrowing of the calibre of the vessel itself at a particular part of it, is thereby prevented, and thus the causes which give rise to the formation of the clot, the ultimate barrier to the hæmorrhage, are prevented, and the artery will consequently continue to bleed.

From these facts, the objects to be kept in view when arteriotomy is to be practised at the temple may readily be perceived, if the operation be performed so as to meet the law that influences the bleeding from the division of these vessels as laid down by Dr. Jones. The artery is to be but partially opened, the aperture to be but in its side; in fact, it is to be but laterally wounded. Should it be completely divided, the bleeding continues but for a short time; the changes above spoken of then ensue, and its further escape is prevented long before anything of the required quantity is obtained: it is also to be observed that these changes take place the quicker the smaller the artery divided; and hence we may see that in any of the small branches which course over the temple, how quickly their effects must be produced in the event of a complete division.

When, therefore, in the performance of this operation, the degree of nicety is observed that will just wound the artery, the operation succeeds; but if it fall short of this, so as not to touch it, or exceed it, so as to divide it completely, a failure is the result in either case.

That much difficulty, however, will sometimes be experienced in operating with the dexterity and judgment necessary to succeed here, is, I think, obvious; indeed, experience shews it. In the first instance, where the branch is small, as it very often is on the temple, and hidden altogether from view, to guide a lancet with such precision as just to strike it with the partiality that is indispensable is by no means easy of accomplishment; in some hands impossible. The elastic nature of arteries will add very much to this obstacle, by enabling it to yield before the pressure made by the lancet, and thus, as it were, to elude its point, even

where the point has been in other respects directed with the necessary judgment. The nature of the parts in which the branch is embedded must likewise contribute much to this latter; its cellular sheath and surrounding tissues, soft and yielding in the extreme; and hence we are not to be surprised at the operator occasionally, nay frequently, failing, and this most salutary remedy thereby defeated, when practised according to the rules of hæmorrhage above stated. There is, no doubt, a degree of dexterity and judgment possessed by some that enables them mostly to meet these difficulties; but I speak of the operation in a general way, and the results that occasionally follow it. In fact, it is looked upon as one of great nicety.

The plan I have to speak of is altogether different from that we have been just considering, and divested entirely of its difficulties. It has also the advantage of being easily performed in every case, and is as simple as it is uniformly successful.

Let the track of the artery be first ascertained, and this being determined on, and the vessel somewhat steadied by the two first fingers, it is to be completely cut across by the stroke of a scalpel or lancet carried in the transverse direction of its course. It will then immediately commence bleeding; the blood, however, will flow but for a short time, when it gradually stops, in obedience to the law just stated, as I apprehend. If the artery be now slapped with the nail of the first or second finger filipped from off the thumb with a little force over or upon the section of it next the heart, or in connexion with the main trunk, the jet will be instantly renewed, and with something even of more force than that with which it bled on being first divided, and continue to bleed so for some time. It will then again lessen, and finally again cease, but will instantly be renewed on resorting to the same means; and so, by adopting this plan each time the bleeding stops, slapping the cut extremity of the artery with the nail in the way mentioned, the jet of blood can be again and again brought on, and the bleeding be continued to any amount required, even from branches so small as to defy altogether the possibility of obtaining

blood from them under the plan at present adopted, and though practised by the most judicious and dexterous hands.

When a sufficiency has been procured, nothing more is required than to wait the next stop, which, if necessary, may be expedited by a gentle pressure with the thumb on the bleeding section of the artery. A small dossil of lint then placed over the wound, and secured with a light bandage, is all that is required to prevent further bleeding.

The principle involved in these phenomena is, I think, obvious. The stoppage of the bleeding from time to time is the result of the formation of the clot in the artery and its sheath, which, being newly formed, is loose and easily broken up. The slaping of the cut extremity with the nail effects this. The artery, together with the sheath, is thereby cleansed of the obstruction, and the bleeding consequently is reproduced.

To ensure success, care must be taken that the artery be cut across completely, which, when small, is not so much a matter of course as might be imagined; so readily does it give before the impress of the lancet. One stroke of the instrument may effect it; I prefer two, except where the vessel is very superficial, as it sometimes is. By the first the integuments are to be divided to the necessary extent; the second is to be carried deep, and with such a latitude as to ensure the division.

The advantage this mode possesses over the one at present employed is so obvious that little need be said in the way of recommendation. Its extreme simplicity, available to the hands of every person, even the most unpractised; the uniform, unerring success with which it is attended; its enabling us, in every instance, to carry the evacuation to any extent that may be required, and the easy, effectual manner in which the further bleeding can be stopped, whenever it is desirable, give it a superiority so unquestionable, that trial of it alone is necessary to ensure its being universally adopted.

ON THE NATURE AND TREATMENT OF COMMON TOOTHACHE,

*As Illustrative of General Principles in
Pathology and Therapeutics.*

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(For the Medical Gazette.)

Analysis.—Nature of toothache; causes, variability, states of the capillaries, and their correlative and compensatory acts. The effect of drinks, posture, external warmth, cold, inflammation, time of digestion, abstinence and depletions; local remedies combined with general; actions of medicines humoral; limited value of nervous doctrines. A more general theory.

I do not find that books inculcate the views I am desirous to unfold with respect to tooth-ache; and still less have I perceived any attempt to connect general medical principles with the subject I have taken in hand. Possibly, most medical men may consider that they understand the subject, but certainly it is not fully and freely taught; perhaps because the result of the doctrine must be to confine the operations of the dentist, to prevent the extraction of many teeth, and to substitute simple curative efforts for manual operations. I have deemed it at least desirable to discuss the subject, although it may not appear that it is easily brought to a definite conclusion. A decayed tooth is occasionally liable to attacks of pain; momentary pangs, slight casual aching, or even hours of severe suffering, come and go, or are variously mingled together, and yet the patient may almost at any period of his distress become quickly and even permanently relieved, whether with or without the assistance of art or empiricism.

Common toothache is truly a variable disease, transitory and recurrent, and it is but a truism to say that the knowledge of the causes of the changes is that of the remedies.

When once the slow, softening, and dissolving disorganization of the crown of a tooth, with the perforation of the enamel, has had a communication between its central cavity and the external air, the susceptibility to pain has

begun, and this is the peculiar state to which my remarks are to be limited. I do not take up the sequelæ of simple toothache, nor any affection of the alveolar cavity; but it will be evident, to a certain extent, that the pathological and therapeutical laws which I hope to illustrate apply to most of these, as likewise to numberless other affections.

The natural cavity of the tooth being exposed, its vascular and sensitive lining is now subject to a new set of circumstances. No longer confined within unyielding walls, it is capable of unusual vascular injection and tumefaction; and it is especially liable to the disturbing influences of altered pressure, temperature, and peculiar stimuli or irritants, &c.

The local causes of toothache which act instantaneously are, I conceive, sufficiently well understood from circumstances of individual and almost universal experience; and, if there were not another set of causes which I shall call constitutional, the subject would have presented few inducements for me to avail myself of it on this occasion. I have been led to take up this subject, almost exclusively, by the considerations that toothache may come on under a great variety of circumstances, and decline under as great a multiplicity of different events, independently of the special local excitement. It seemed to me a good service to explain these general perverting circumstances, and above all, to show their close analogy with an extensive series of other disorders, and the intimate connexion which exists between the rational explanations of one and all.

The progress of dental decay, which I have taken some pains to investigate, must not here engage our attention. It requires only to be admitted in general terms that the disease is one of steady progress, but that reasoning with respect to the various attacks of pain which occur in one tooth in the course of a few hours or a few days, the excavating process in the affected tooth is to be considered stationary; and that, but for changes from without, or alterations in the vascular cavity, there is nothing to account for the sensations of distress.

After the first pains of a decayed tooth, although the destruction of the crown steadily proceeds, we cannot suppose any material or disorganizing change in the sentient bulb of the cavity. As at-

mospheric exhaustion or pressure, heat or cold, pepper or vinegar, or an astringent, produces more or less transitory pains, so also various general changes in the body effect changes in the capillary actions of the bulb, by which pains of the same character are induced, without the concurrence of immediate local causes. These general changes in the frame, and their local effects, as I have said, are particular objects of my present remarks. The study of their rise and decline, their exciting and counteracting causes, will bring us, if I mistake not, to understand not only how to cure the toothache, and prevent it, and even render the diseased tooth free from the disturbance of local irritants, but the result will reflect a strong and clear light on the whole class of variable diseases, and upon capillary function in general. The consideration of the capillary system as a whole, whether in physiology or pathology, is, perhaps, the most extensive and valuable that the physician can engage in.

It has been said that the cellular membrane of the body, if disconnected, *en masse*, from all other matter, would still retain the figure of the whole; and this applies to the capillary vessels in a no less marked degree. This is not a trifling reflection, when the extent and various susceptibilities of the capillary system come to be carefully weighed. The capillaries are the most essential parts of the circulation, the seat of all nutrition and secretion, and the only means of growth and reparation. These vessels, with the blood which they contain, are momentarily indispensable to the life of every part, as they are the immediate causes of all spontaneous morbid changes of tissue.

One great point of view which I cannot exclude, may suffice to indicate what I mean, if not to explain the full scope of my opinions.

The necessity of an easy balance between all the parts of the capillary system, is, I conceive, a pretty general law. The fact, that the fulness or activity of one part may compensate for the opposite state of another, is a similar but subservient rule, which explains both how the balance may oscillate, and how it is to be physiologically restored.

It would take too much time to show, in the briefest manner, the varied compensatory offices of the capillary vessels

throughout the body; but having stated generally, that a disturbance of the capillary balance is the prime cause of toothache, and that the restoration of the balance is the means of cure, I shall leave the following particular reflections to explain their connection with the more general theory of capillary actions.

Let us now inquire, what are the general or constitutional causes of toothache? when the pang begins, without appreciable local excitement?

Not many minutes after a considerable draught of any kind the pain may begin or return, not instantaneously, but gradually. The fluid has become absorbed and circulated, the feeble capillaries yield, and the sentient tissue is too ready to bear witness to the change.

This state, ere long, becomes relieved by abstinence, and the general decrease of the fluids by secretion. At times, a change of posture alone may suffice to turn the balance of capillary fulness, or the free circulation of the surface of the body alone may act as a sufficient derivation, and, aided by diaphoreses, its influence may be redoubled.

The auxiliary or individual action of partial derivations are real objects in the same scheme, but they deserve but little attention among the great influences we are considering.

I feel myself, in a great measure, prepared to remark on the mode of operation of cold in causing toothache or catarrh; but I shall, without delay, assume that an odontalgia may follow as a purely inflammatory effect of exposure. After the lapse of a few hours, the consequence of even an inconsiderable cold is a general capillary re-action, as it is called, often accelerated by, and falsely imputed to, a warm room. The tooth pulp only partakes of the general disturbance, except that its derangements predispose it to undue distension, and its site and structure render the sensations painful.

It is not necessary to explain how the digestion of a copious meal may in due course augment the painful reaction just named; but it may be well to claim attention to the reflection that, digestion being completed, the force and mass of the circulation gradually decline, and that abstinence may carry on this effect to an indefinite extent. The same may be said of medical de-

pletions, local or general, or indirect,—as by purgatives, &c.

I shall not advert to the agency of local remedies, farther than to observe that their actions, though transitory, are all explicable by reference to the doctrine maintained above. Astringents, alcohol, or even cold water, suppress the capillary injection. Caustic acts probably in the same way, beneath the layer of which it has destroyed the life.

The local causes of toothache are sometimes, however, necessarily involved with the general; but we ought not to expect that the common, slight, and momentary influence of direct applications, can be capable, by themselves, of keeping up the distress for many minutes, and still less for hours. In brief terms, the tooth pulp is in a state of defective nutrition, and the capillaries are extremely susceptible of undue injection to the effect of pain. The smallest local disturbance leads to this painful capillary fulness, and it is maintained by the force of the circulation. The remedies are threefold:—first, such as locally contract the capillaries, as camphorated spirit; secondly, such as determine the distension to other parts; and thirdly, such as tend to the free nutrition of the disordered capillaries, by which they are enabled to contract and resist distension. These last are almost the only permanent and efficient agents, and it is too common that they are altogether neglected, although the feeding and stimulating doctrines of a few may be found to carry them out every now and then with good success.

The reference here made to the states of the blood, as unfolded by the doctrine of the humours, is intended to be positive, though brief.

The explanation of the effect of cold I hold to be of the same kind, *i. e.* humoral. The functions are first suppressed, secretions are retained in the blood, and the fluid is both the less nutritious and the more impure. Subsequently, the reaction of the capillary vessels consists, in great part, of the excitement caused by accumulated matters to be eliminated. Freer, though disturbed secretions, are a first, though not always a speedy, result. Any one eliminating organ in particular may be overtaken, or a defective nutrition is

set up in the form of inflammation. When the balance of the secreting function is once more restored, the effect of a good nutrition is speedily to fortify the yielding capillaries of any enfeebled part. Because the part is weak it receives more blood, and because it receives more of healthy blood it becomes enabled to resist distension.

In most cases of disease, when considering causes and remedies, it is well to be mindful of the danger, or at least of the appearance, of "blowing hot and cold at once;" but I do not fear that the freest interrogation will prove the seemingly contradictory facts, with which I am engaged, to be really at variance.

Sometimes a toothache may be pretty suddenly relieved by an unusual dose of wine or the like (and this even permanently,) and we cannot doubt that general freedom of all the capillary actions is among the chief effects of the remedy, as it is also a very reasonable explanation of the local relief. Increased secretion in some great organ may be a part of the same.

I am inclined to liken the action of opiates to that of wine; at least it is indispensable to remember that, independently of the anodyne, there is a general and stimulant effect. The influence of tonic medicine has at least one analogy with that of good food. Well-nourished capillaries, as if permanently astringed, become insusceptible of distension, and we can understand that while an excited state of the system generally (whether by medicines or diet,) tends to prevent the oppression of slight exposures or the like, the general activity of all parts gives a facility to all.

Thus, exercise liberates the secretions, and prepares for a healthy assimilation and the diffusion of the soundest nutrition to all parts. The over-yielding capillaries receive the most, and are thus prepared to contract. Rub the back of the hand, it inflames, and then returns to its pristine hue by the aid of additional nourishment, which continues just as long as it is needed; and very long and mischievously, provided the circulating material is disordered.

In quoting the following opinion, from a deservedly eminent member of our profession, I would hope that I shall not seem to make light of esta-

blished views, but rather appear to own what I owe to the labours of others:—

"It is however only by treating this affection, as nearly as circumstances will admit, upon the same principles as inflammation in other parts, that any relief can, in general, be rationally expected. In those attacks, therefore, in which the inflammation is considerable, and there is any particular reason for preserving the tooth, leeches should be freely and repeatedly applied to the gum, the bleeding being encouraged by repeatedly holding warm water in the mouth.

"After the inflammation and pain are thus reduced, should the nerve be only in a small part exposed, the means already mentioned for diminishing its sensibility may be had recourse to.

"But the hope of relief which these remedies may, from occasional success, hold out, is inmost in stances completely fallacious, and the extraction of the tooth can alone be depended upon*."

Some fifteen years since, a strong tooth, with a little hole in it, gave me terrible pain. Fresh water in the mouth cured it instantly; but as the water became warm the pain became intolerable, and, after two or three hours spent in repeating the experiment and neglecting the use of other measures, I consented to the abstraction of the tooth. I have often suffered since, but have never been driven to part with another of my molars. I have treated the toothache in others; but I do not mean to declare, that all patients are equally amenable, or that all cases are alike: yet I can say, that my views of the toothache have been so long settled, and my conviction, from experience of the use of remedies, so uniform, that, as I believe my friends are aware, my mind seems quite made up against the propriety of extracting carious teeth.

It is decidedly my general conclusion, that the teeth need not be removed, and that their loss is fraught with mischief.

Independently of diseases of the alveolus, the instances which demand extraction are, I suppose, too inconsiderable to deserve mention; and with reference to disease in the socket itself, I conceive the necessity for the removal of teeth is very rare in comparison of

* Bell on the Teeth, p. 157.

the frequency of the operation. I do not mean to diminish the opinion of the greatest authority, Mr. Bell, who states, "that, in general, the only alternative is the removal of the tooth." My object is to promote a free inquiry, as to whether the surgeon may not more often do hereafter what chance has so often done before.

The order in which I would recommend the use of curative applications in toothache may be generally stated as follows :—

The first object may be to act on the affected spot to suppress the capillary distension; and, if this is both accessible and limited, there is little prospect of failure in a careful attempt, at least for a time.

Next should be considered, if need be, the means of diverting the capillary fulness as generally as possible to other parts of the body, and without materially increasing the mass of the circulating fluids.

Warmth, diffusible and local stimuli, act most speedily; opium concurs with these, while it tends to produce insensibility.

The stimuli of particular excretory organs subserve the same aim, while they tend actively to the reduction of the circulating fluid, and especially to the removal of its least precious elements. Purgatives especially serve to free the abdominal circulation. The right use of abstinence has been already indicated. The omission of simple fluids and unprofitable matters is a necessary consideration. The final remedial object relates to the better nutrition of the capillary system. Excessive repletion probably oppresses most functions, while a somewhat stimulating and limited diet favours the activity of almost all, whether nutrient or depurative. The result is, in the capillaries, an insusceptibility alike to local and to general disturbances; and this obtains as strictly when we regard the capillaries, as the entire body.

The concluding requisite, perhaps, I need not mention.

All attempts are likely to prove abortive without due attention to obviate the additional causes of disturbance which occur almost every other hour in the day; and yet experience shews, that a restorative effort may become paramount, in spite of very manifest

and frequent disturbances. All these, however, the judicious physician will of course study to exclude or to palliate. Repeated doses of stimulus, or steady exercises, act alike in obviating the vascular disturbances of cold.

What may be called aguish toothache is a very definite and certain peculiarity, and I think justly named. It is, I think, rather peculiar to the comparatively strong, and yields almost invariably to the purer tonics, and not seldom to a nutritious and stimulating meal—a single "good dinner."

I shall mention two causes of this form of disorder: 1st, The gradual decline of the system after the best meal of the twenty-four hours; and, 2dly, The exposure of the early part of the day, which the weakened state of the system is incapable of resisting. I would hope that these opinions are not devoid of distinctness, though they may well be thought to need corroboration. The importance which I would attach to them, however, is in relation to ague and other periodic affections, and requires that I should enforce my reflections rather in connection with those topics than in this place. I have felt that the most cursory view of some facts would meet with ample corroboration in the memory of observing persons.

To declare that the general views of the nature and cure of toothache are applicable to such affections as ulcers, asthma, and stricture of the urethra, (not to name more), need not necessarily offend a reflective mind; and yet I cannot but fear, that the close relation, the full analogy, which ought to be here apprehended, is not fairly appreciated. I am prepared to illustrate my opinions to a moderate extent; but at this moment I must content myself with stating my conviction that these conclusions are essential to right practice.

The affections of the capillaries as local agents, or an universal system, forms a large proportion of all pathology. The immediate dependence of the capillaries on the quantity or state of the blood is a principal law of the humoral doctrine. The dependence of these vessels on other parts of the circulation, namely, the heart and great vessels, is explained by physical laws, and we have had occasion to acknowledge otherwise, and specifically, both

a physical pathology and physical therapeutics with reference to the capillaries.

As to the influence of the nerves on the capillaries, it is not my intention to dwell upon it. Doubtless a nervous pathology is to be admitted along with the humoral and physical; but it has been one chief object of my present endeavour to show, that those who call an affection *nervous*, will, without a due estimation of other principles, have but a weak, partial, and mischievous guide in practical affairs.

The existence of physical, humoral, and nervous influences in most diseases, and in the course of most remedies, must be admitted; and it should be remembered, that *neither one* can be justly appreciated without considering the rest.

There are two different sorts of nervous affections, with those who make the most of the teeth as a fountain of disorders.

The first consists of a mass of isolated anomalies. A carious tooth, like a sequestrum in the thigh, has been said to produce *tic douloureux* in the face.

In a letter to Dr. Miller, Dr. Rush, of New York, describes epilepsy as depending on caries, and disappearing with its removal. Caries is said to produce dyspepsia, and even lupus; and I am ashamed to record the phenomena that have occasionally been reported to arise directly from the teeth, and sometimes even when they only happen to be misplaced.

I do not mean to set all these cases and authorities at nought; but it deserves a thought of doubt, when the slightest local disorder is declared to give rise to the most terrible and remote disturbances.

Mr. Bell remarks that, of the sympathetic pains, "no one is so constant and so distinctly marked as the violent pain in the ear, produced by the exposed nerve of the inferior *dens sapientiæ* *." This may be quoted for the sake of the contrast which it affords.

In another place Mr. Bell remarks, "It not unfrequently happens that parts the most remote become the apparent seat of pain, from the exposure of the nerve of a tooth. I have seen this occur not only in the face, over the scalp, in the ear, or underneath the

lower jaw, but down the neck, over the shoulder, and along the whole length of the arm *."

Now, I would avow it a part of my self-respect to acknowledge the merits of Dr. Bell as a physiologist, but I cannot set down such statements as the last as otherwise than problematical, and even probably erroneous, until their foundation is rendered much more apparent.

The second set of nervous disorders connected with the teeth are the common affections of infancy, though these are not limited to the period of active dentition, and are never thought of with reference to the second teething.

Infantine convulsions, coma, and paralysis, are held to be indisputably dependent on the growth of the teeth, as if the process were so much more difficult or distressing than the elongation of a femur, or the stretching of the infant skull. Eruptions on the face, and disturbances of the stomach and bowels, are additionally mysterious consequences of supposed difficult dentition. For the present, I am willing to leave the reputed disorders of teething to the nervous pathologists, as well as the effects of worms, and all the variety of irritations which are thought to commence in the stomach and bowels, and to act on the system through the nerves—now tickling the nose, and now causing nightly bronchial catarrh. But I have this one thing to say, that although I admit the truth may be with them in part, I find so much reason to dissent in one place, and to doubt in another, that I plainly think those wrong who can discover nothing but simplicity and certainty in the obscure theories above alluded to.

I should be glad to afford authorities for this dissension, but at present these are very scarce. An older writer, Dr. Wickman, appears to have been quite opposed to the exclusive doctrines of dental irritation. The just way is, no doubt, to show that the causes so called sympathetic disturbances are different, and I do not feel unprepared speedily to attempt this.

There is not uncommonly to be seen on the gum a globular fungating body, closely applied to the neck of a tooth, and commonly of an incisor. It is of imple structure and of rapid growth,

* On the Teeth, p. 156.

* On the Teeth, p. 155.

and pretty constantly returns when removed, but I believe it never exceeds a moderate size; as, for instance, that of a filbert nut. This is of the nature of polypus, or rather granulation, being, I conceive, strictly analogous to the vascular button commonly seen at the orifice of the sinus, leading to the dead bone. I do not discover in the progress of these formations anything analogous to what is called irritation or nervous sympathy; they indicate active reparative nutrition, where cicatrization is prevented. This mode of reproduction of granulations is often excessive, and is a little more so in mucous passages than elsewhere. Having attained a certain size, their nourishment is suspended, or it declines, and then they become sloughy on the surface.

In conclusion, it will appear that my object has been two-fold—to illustrate a common disorder is to ground upon it an important general doctrine. My first hope is, that I am not at any very great variance with modern principles, and my last is, that an attentive perusal will not fail to produce a favourable impression of the truth and value of a doctrine to which I am very sensible of being ill prepared to do justice.

COMPARATIVE

MERITS OF AMPUTATION

IMMEDIATELY BELOW THE TUBEROSITY OF THE TIBIA, AND OF AMPUTATION AT OR BELOW THE MIDDLE OF THE LEG.

By J. ADAIR LAWRIE, M.D. Glasgow.

(For the Medical Gazette.)

IN a paper by Mr. Potter, late House Surgeon University College Hospital, published in the last (24th) volume of the Medico-Chirurgical Transactions, the author endeavours to prove that amputation of the leg is best performed “close to the tuberosity of the tibia, the stump being left only of sufficient length to rest firmly on the cushion of the wooden leg.” He states that the mortality after this operation in the University College Hospital was not great, being one death in eleven cases. “Since, then,” he adds, “the high amputation is not necessarily more dangerous and fatal in its consequences than the operation below the middle

of the leg, it does appear, at least in hospitals, to be on the whole the one to be preferred; for although a long stump may be more convenient for the instrument maker to adapt limbs to, yet to patients who are obliged to wear the common wooden pin, and labour for their living, it is found a very useless, and frequently a much worse than useless, appendage.” In the preceding page, Mr. Potter quotes an opinion which I ventured to give in a paper published some months ago in the MEDICAL GAZETTE, to the effect, that the returns from the Glasgow Infirmary, “by pointing out the danger of the common method of operating, should induce us never to remove more of the limb than will ensure that the parts which form the stump are sound; and in all cases, except those of necessity, to abandon the operation below the knee.” In this quotation, and his remarks upon it, Mr. Potter has omitted a very important sentence in my paper, viz., “By a very simple, and by no means expensive, apparatus, the patient can walk on the ‘wooden pin’ with his knee straight; and a long stump, so far from being an inconvenience, is a great advantage.” If a long stump could only be used “to adapt artificial limbs to” or “to project far behind the other limb,” the patient resting on the knee, there could be little doubt that amputation immediately below the knee would be the preferable operation, but *I know* that “hospital patients” are not compelled to adopt either alternative; the apparatus used is very nearly the same as that employed to fit the common wooden pin to a stump after amputation above the knee. Mr. Potter must have seen many patients walking well on wooden pins after amputation of the thighs, and in Glasgow there are several persons walking on wooden pins after amputation below the knee, with the knee straight, and with so little inconvenience, as to perform journeys of 20 miles in a day, and with so slight a halt as to be hardly perceptibly lame. The first patient whom I saw using this apparatus was a sailor, whose leg was amputated about its middle in the Infirmary, about ten years ago. Those who witnessed the operation, of whom I was one, condemned it as too low. I was agreeably surprised to meet this man about twelve months afterwards, walking on a wooden

pin with his knee straight. He congratulated himself on the supposed error of the operators, which had left him a more useful limb. The next case I met with was a lad who lived in the immediate neighbourhood of the hospital; he could walk 18 miles in a day with great ease, and with very little halt. During my last period of attendance on the hospitals I performed the low operation several times, and had the satisfaction to see my patients walking much better than if I had removed the limbs immediately below the tuberosity of the tibia. In female patients I consider the low operation as an especial boon. They can seldom be prevailed upon to use the common "long pin," and generally prefer a crutch. Not very long since, I removed a girl's leg above the ankle, and saw her some months afterwards walking on the "short pin" much to her own and her mother's satisfaction. It is not in walking only that the advantages of the low operation are apparent, but in sitting, stooping, and, indeed, every position of the body except the erect and recumbent. In "hospital patients" it is especially beneficial, by enabling them to pursue almost any avocation, while the high operation interferes with every kind of labour in which the knees require to be bent.

I called to-day on our bandage and apparatus makers (Morrison and Edwards, in Buchanan Street), who informed me that the price of a "wooden pin" for the low operation is *fifteen* shillings, while that for the high operation is *twenty*. They told me that they have never found it cause inconvenience, and that for all classes of patients, but especially the poor, it is decidedly preferable. I was rather surprised to learn that one of the patients for whom they made a "short pin" is a sailor, and that by means of a hook attached to the fore part of it, he climbs the rigging nearly as nimbly as before he lost his leg.

As for the comparative mortality of the two methods of operating, I believe that every operating surgeon will subscribe to the axiom, *cæteris paribus*, the nearer the trunk the more dangerous the amputation. If the results of more extended experience confirm that of the Glasgow Infirmary, that "amputations for disease" below the knee are

more fatal than operations, under the same circumstances, above the knee, my impression will be strengthened, that the fleshy part of the leg below the knee is not a favourable spot for amputating. The experience of the London University Hospital in this operation (two deaths in 22 operations) is exceedingly favourable. It might, however, have been still more so if the low operation had been preferred.

The above reasons appear to me quite conclusive in favour of amputation below the middle of the leg; and to justify a repetition of the statement "that we ought never to remove more of the leg than will insure that the parts which form the stump are sound; and that in all cases, except those of necessity, we ought to abandon the operation below the tuberosity of the tibia."

Moon Place, Glasgow, Jan. 7, 1842.

MEDICAL GAZETTE.

Friday, January 21, 1842.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

THE COLLEGIATE SYSTEM.

WE recur to this subject with the satisfaction of knowing that what we said nearly a year ago upon it has met with approval from every writer who has given the proposed system his fair attention. As far as we know, there is not a medical journal in which, on a review of the Reverend Mr. North's pamphlet, or on some other occasion, it has not been admitted that the adoption of some portion of the Collegiate system in our medical schools must be looked to as one of the chief means of improving both the social and intellectual condition of the rising generation in our profession. This, therefore, may now be regarded as settled: the only questions remaining relate to the degree and mode in which the system should at first be brought into operation.

We have before us a very sensibly written article, published in the British and Foreign Medical Quarterly Review, and circulated extensively in a separate form, which suggests more of the details of the system than any hitherto proposed. We shall, therefore, now consider it, and compare the views it contains with those which we have long entertained, and have only refrained from publishing through the desire that, in the first place, the general necessity of adopting the plan should be admitted. This being granted, even beyond our expectations, we may at once enter into particulars.

But first, it is necessary to notice an objection to the plan which we imagine has been proposed to the author of this paper, namely, that the Collegiate system of restraint (or, as we would call it, of discipline, in the most proper sense of the term) is not adopted in the universities of the Continent, or in those of Scotland, or Dublin. Such an objection is probably founded on a misunderstanding of the terms employed. It is not necessary in these times, that, because an institution is called a university, it should even be composed of several colleges, still less that they should have a collegiate system, properly so called, or be guided on the principles of the Colleges of Oxford or Cambridge. We know of no essential difference in regard of moral discipline between the medical schools of the Continental and other similar universities, and our own London hospital schools—all are faulty: the only diversity is in their several degrees of insufficiency. Among them we should be inclined to regard the London schools as, by accident, the least defective, and as offering the fewest obstacles to the good moral and intellectual culture of the student. In all, therefore, that we say of the Collegiate system, we allude exclusively

to that plan of Collegiate discipline which is worked out in Oxford and Cambridge; and we, without question, include among the establishments that are to be improved by it, all the universities in which it is not adopted. They may rely on this—that however nearly they may come to the objects of their imitation in name, in mode of tuition, and many other things, they will still, the system of discipline being neglected, be far behind in dignity: it is, in our opinion, to that discipline carried on through centuries, and adapting itself cautiously and slowly to the varying temper of the times, that the source of the peculiar celebrity of our English universities is, more than to any other circumstance, to be traced.

But to return from this digression. The first particular discussed is, *College rooms*. The author of the paper fears that “the prejudices and the jealousy of control, natural at the age of medical students, might be some obstacle to a residence in College being made more than *optional* with the student.” We confess we have very little of such fear. The greater number of students are sent, or brought, to London, by friends or relatives who, at first, leave them but little to their own option; and each of whom, if he were offered the advantage of placing his *protégé* in the security of a College, would not think of permitting his wish to be his own master to have any weight. At present, medical students do not, in general, act independently till they have been a few weeks in London: and *then* it is that, having no guide, they are chiefly in danger of acting wrongly, and of getting that bias from which they can, with only so much difficulty, recover. We are persuaded that the chief need of the Collegiate discipline is during the first year, when, indeed, all the good or all the harm is to be done; *then* its restraint is least felt; for he on

whom it is laid has not, in general, been hitherto uncontrolled: *then*, too, it may give habits with which the student may afterwards go, with comparative safety, into the temptations of being his own master. We should be disposed, therefore, to render residence in College compulsory on every freshman among the students who had not some particular and good reason to assign for residing elsewhere: and to leave the option of residing out of College to those who had completed their first or second year of study. In this, if in nothing else, we would depart from the system of the model universities, in which College rooms are granted as a privilege to the seniors, and the freshmen have generally to reside in the town. In them this plan is made safe by means of licensed lodging-houses; a system which it would be very difficult, if even it were possible, to adopt in London.

We do not believe that the compulsion would be unpopular even among the first-year students. Of all who finish their educational career, with the disgrace of *grinding*, or doing something worse, not one in ten comes to London with any other disposition than an anxiety to work hard and honestly; take students, therefore, when they are still industrious; confirm in them, by fair discipline and example, their good habits; and, as far as human prudence can make them, they will in a year or two be proof against the allurements of indolence and trifling. At any rate, whether the residence in college is to be compulsory or not, let the first offer of rooms be made to freshmen; for there can be no doubt that to them the system offers the chief advantages.

In reference to the mode and the expense of providing rooms, we entirely agree with the author of the paper. His calculation is as follows:—The average sum paid for rent by students

is about £24 for the year of eight months. If the *average* terms in the college were £20, a hundred resident students would produce an income of £2,000. Deducting £500 from this for servants' wages, repairs, and other incidental expenses, there will remain £1,500 a year as the return for the capital invested in the building; a return equal to 5 per cent. upon £30,000. The outlay could scarcely ever amount to so much as this for a building for 100 students; but admitting this calculation, and leaving out of the question all abatement through donations, it seems clear that the system would answer well, even in a pecuniary view. Besides, in all schools with more than a hundred resident pupils, the larger building required, and the current expenses, would be proportionally less; additional students would add to the income in direct proportion to their number, but in by no means so great a proportion to the first or annual expenditure.

The amount of restraint to be exercised upon those resident in the college is, certainly, a difficult question. From what we know of medical students, and of the unvarying deference which they all pay to those among their teachers who sufficiently respect themselves, and who refuse to court popularity by encouraging the habits of the more idle of their pupils (a custom far too generally pursued); from this, we are sure that the restraint might, with propriety, be but little less than that adopted at Cambridge. A certain hour at night should be fixed, after which the college gates should be closed, and at which all parties in the college should break up; no student should be allowed, without inquiry, to absent himself for all the night, nor without reproof, to do so frequently; quietude should, as far as possible, be preserved, not to abridge mirth, but to permit the study

of those who are not revelling; and to maintain it, the tutors should have the right of exercising, at their discretion, some control upon the proceedings at convivial meetings.

But, indeed, in all these it is impossible to lay down fixed rules; if discreet men be chosen for tutors, and the broad principle of managing the college so that it may seem, in comfort as well as in discipline, to be *a home* to the student, be set before them, there can be no reason to fear that serious or permanent evil will spring from a restraint either too lax or too severe.

Both for this discretionary power of government which must be granted to them, and for many other reasons, the appointment of the resident tutors will always be one of the most difficult and important particulars in the management of the colleges. The plan of the writer whose paper we are considering is, that a tutor should be appointed to every twenty-five students; each of whom should pay him 8*l.* or 10*l.* a year, so that he might have an income of 200*l.* or 250*l.* a year, his lodging, and perhaps his board. This would of course be ample remuneration for one of the class from which the tutors would be chosen, which would be that, not of the senior students, as seems to be suggested, but of those who have taken their diplomas, but desiring to possess much more than the average of knowledge, or with a prospect of being taken into the school, remain about the hospital. Of this class there are always many about every large school, and there could therefore be no difficulty in finding one qualified, not only by medical knowledge, but (which is, perhaps, more important) by habits and by manner for the office of tutor. How they should be selected, we cannot, indeed, at once say; an examination such as is proposed would certainly not do, for intellect is by no means the faculty most required in a tutor who is

to be not so much the teacher as the guide and adviser of those placed under his charge. Probably it would be best to leave the appointment of tutors to the higher authorities, or the proprietors of the college; they would, of course, seek the advice of the teachers in the school, and the question would thus rest with those among whom it would be safest, because they would have the nearest and greatest interest in deciding rightly.

However appointed, the general duties of the tutors would be plain. We have already, more than once, spoken of them; and, to avoid self-quotation, will now adopt the words of the article in the review, which in every respect agree with our own: "He would be the friend and guide of the pupil; his Mentor in every respect. He would superintend and assist his studies, practical and theoretical, and second the instructions of the Professors by frequent catechetical exercises. His superintendence should not be permitted to extend to more than the number we have mentioned, lest its efficiency might be proportionally diminished. By means of this system of tutelage, the student would be saved from vast waste of time and labour, and at a less expense than he now pays for a three-months' assistance from the *grinder*—that dernier resort of idleness."

There are many other particulars in this interesting question which we will consider on a future occasion.

KING'S COLLEGE HOSPITAL.

DISEASE OF THE HEART, WITH REGURGITATION THROUGH THE TRICUSPID ORIFICE; AND GRANULAR KIDNEY.—CLINICAL REMARKS BY DR. BUDD.

ANN SYMONDS, ætat. 29, single, servant, native of London, was admitted into King's College Hospital the 26th of May, 1841. She stated that when 12 years of age, she had scrofulous ophthalmia, for which she was in Guy's Hospital seven months; but that with

this exception her health was good, until about two years ago, when, without any assignable cause, she became affected with shortness of breath and a dry cough. These symptoms came on gradually, and were attended or soon followed, by dropsical swelling of the arms, legs, and face. The dropsy disappeared at the end of six weeks, but she did not recover her former health; and about a fortnight before she was brought to the hospital, the dropsy recurred.

At the time of her admission, there was œdema of the legs, arms, and face; but, as far as we could judge, no effusion into the serous cavities. She complained of palpitation, and had cough, attended with catarrhal expectoration, and some difficulty of breathing on exertion. No pain of chest; sounds of the heart, loud, but natural. The urine was pale, acid, of sp. gr. 1010, and deposited an abundant precipitate of albumen on the application of heat, or the addition of nitric acid. She had frequent desire to pass it, and was obliged to get out in the night for this purpose. She was pallid, suffered frequently from headache, and occasionally vomited; had much thirst, very little appetite, and slept badly. The tongue was clean and moist; the skin dry, and hotter than natural; the pulse, 108, full; catamenia had not returned for twelve months, but previously were regular. Occasional slight leucorrhœa.

She was treated, first, by diaphoretics, (Liquor. Ammon. Acet. and Dover's powder), afterwards, by mild diuretics; but little amendment took place for the first month. At the end of this time she began to improve; the skin became cool, and the pulse slower; the headaches recurred less frequently; and the dropsy gradually, but almost completely, disappeared.

The amendment, however, was not of long duration. In the last week of July she became affected with severe shooting pains in the precordia, attended with much palpitation, and such oppression of breathing that she was unable to lie back in bed. She continued in this distressing state about a fortnight, when the pain, the palpitation, the cough, the dyspnœa, all diminished, and she was again walking about the wards, in a state of comparative comfort, until the middle of September. At this time the chest symptoms, with the exception of slight cough and some shortness of breath, had disappeared, but there was great œdema of the legs, and a considerable effusion into the peritoneum; and she began to complain of severe pain and tenderness in the right iliac fossa.

The pain and tenderness were somewhat relieved by a few leeches, and by fomentations; but she continued to complain of pain in different parts of the abdomen, chiefly in the right flank, until the beginning of November. The pain then ceased, and from

that time she allowed slight percussion without any complaint. The ascites persisted.

No fresh symptoms were noticed till the 30th of October. There was then great œdema of the lower extremities, and the abdomen was very much distended and fluctuating, but there was little, if any, swelling of the hands or face. On examining the chest, we heard a distinct systolic bellows-sound, which was much louder over the lower part of the sternum than anywhere else. It became more feeble as the stethoscope was moved to the left of the sternum, and was very faint about the apex of the heart. The diastolic sound was everywhere loud and clear. No morbid bruit could be heard over the arteries of the neck.

From the situation of this bellows-sound, we inferred that it depended on regurgitation through the tricuspid orifice, and looked out for pulsation of the veins of the neck. The superficial veins of the neck were, however, very small, and at that time we could discover no pulsation in them. On the 11th of November, the dropsy had increased, the veins of the neck were larger, and they were very distinctly seen to pulsate.

From this time the bellows-sound could always be heard, loud but soft; and the venous pulsation was always manifest, until her death, which took place on the 2d of December.

From the time of her admission to her death, she frequently suffered from severe headache, had never much appetite, and was never free from thirst. The stomach was extremely irritable, and on two occasions distressing vomiting was brought on by small doses of digitalis, continued for two or three days.

The tongue was clean and moist; the skin dry, and generally hotter than it should be; the pulse, usually from 90 to 100; the bowels freely open, with occasional diarrhœa; the urine, in quantity equal to or above the healthy standard, always very pale, free from sediment, and of sp. gr. from 1010 to 1008. It always contained albumen, but, for the last month, the quantity of albumen was very small. She had occasional slight pain in the loins.

On examination after death, the peritoneal cavity was found to contain a large quantity of serous fluid. The intestines were matted together, and the liver coated, by a soft albuminous deposit, which could easily be stripped off.

The kidneys were in the condition described by Dr. Bright and Dr. Christison, as the third stage of granular degeneration. They were extremely small, each weighing about two ounces two drachms, and lobulated. There was great atrophy of the cor-

tical substance, so that the tubular portions reached nearly to the convex side of the kidney. A section of the cortical substance was speckled by the white granular deposit. The liver was healthy.

The lungs healthy, and free from adhesion, except the left, the anterior edge of which was adherent to the pericardium. There was a large quantity of serous fluid in the cavity of the right pleura.

The pericardium was universally adherent to the heart, and so firmly, that it could not be stripped off without using considerable force.

The heart was much larger than natural, and its cavities dilated. The parietes of the left ventricle were much thickened, but those of the right ventricle were thin, and collapsed before the heart was opened.

The aortic and mitral valves were somewhat thickened near their edges, but presented no other traces of disease. The pulmonary valves perfectly healthy. The septal leaf of the tricuspid valve was adherent to the septum; and the anterior leaf had two of its chordæ tendineæ ruptured. The edge of this leaf was thickened, and that portion of it from which the cords were broken, was hanging loose.

The 3rd, or posterior division of the valve, healthy. The right cavities, and the tricuspid orifice, were much dilated.

The aorta, healthy.

REMARKS.—The first point to which I wish to call your attention, is the affection of the heart. This was interesting on account of its great rarity. It hardly ever happens that the tricuspid valve is so diseased as to give rise to a distinct *bruit*, without similar disease, and to a much greater extent, in the mitral and aortic valves; so that we have seldom an opportunity of discriminating the morbid sounds produced by disease of that valve.

The diagnosis was, however, in this case, very plain. There was a systolic bruit, as in mitral regurgitation; but this bruit was heard loudest under the lower part of the sternum, and was very faint about the point of the heart,—showing that it had its origin in the right cavities,—whereas the bellows-sound attending mitral regurgitation is, as you perceived from the cases I brought before you in my last lecture, loudest at the point of the heart, and to the left side of the mamma,—that is, in those parts of the chest nearest the left ventricle,—and diminishes very much in intensity, or becomes quite inaudible, under the lower part of the sternum.

In examining the heart, we should always bear in mind the precept of Laennec, and distinguish two precordial regions, the right and the left:—the 1st, including the space covered by the lower third of the sternum;

the 2nd, corresponding to the cartilages of the 4th, 5th, 6th, and 7th ribs. Following this precept, we have inferred that, in a woman up stairs, presenting the symptoms of mitral regurgitation, there is considerable hypertrophy of the right ventricle, from the strength of the heart's impulse under the lower end of the sternum. In Symonds, it was evident, from absence of any morbid bruit over the arteries of the neck, and from the clearness of the second sound, that there was not much disease of the semilunar valves.

The only way, then, in which we could explain the systolic bruit, heard under the lower part of the sternum, was, by supposing there was regurgitation through the tricuspid foramen. This supposition was made when the bruit was first heard, and was subsequently confirmed by the manifest pulsation of the jugulars, depending on the impulse being propagated backwards from the right ventricle.

Pulsation of the veins of the neck is confirmatory of regurgitation through the tricuspid orifice, just as hearing the systolic bruit about the angle of the scapula is of mitral regurgitation.

In Symonds, the pulse in the veins was latterly unusually distinct, in consequence, no doubt, of the free regurgitation permitted by the adherent and the loose leaves of the valve, and by the large size of the tricuspid orifice.

Venous pulsation will assuredly be more distinct, *cet. par.*, the stronger the right ventricle: but in Symonds, the parietes of this ventricle were thin and weak.

It appears from some recent observations of Dr. Blakiston, of Birmingham, that regurgitation through the tricuspid orifice is much more frequent than was formerly supposed; and he is of opinion that other changes in the heart's structure are seldom effectual for the production of dropsy, unless attended with imperfect closure of those valves. It seems to me evident that obstacle to the circulation through the left side of the heart, might cause distension of the venous system and dropsy, without any such regurgitation. Disease of the aortic valves frequently causes dilatation of the left ventricle, of the left auricle, and of the right ventricle, when there is no regurgitation through the mitral and pulmonary orifices. In the same way, the obstacle might reach still further backwards, and produce dilatation of the right auricle, and of the venous system, and consequently cause dropsy, without any regurgitation through the tricuspid orifice. It is quite clear, however, that any such regurgitation would add to the effects of the pre-existing obstacle, and would hasten or increase the dropsy.

It would seem that in the healthy state of

the heart, the tricuspid valves do not, under all circumstances, close their orifice nearly so perfectly as the mitral theirs; but allow some degree of regurgitation whenever the right ventricle is distended. This is so much the case in asphyxia, for instance, that Dr. John Reid found that the distended right ventricle could always be partly emptied in a direct way by opening the jugular vein. As the blood flowed from the vein, the distension of the ventricle was seen to subside. This is a capital point in the treatment of asphyxia, for one of the chief causes of the heart's stopping, is over-distension of that ventricle.

Mr. King, in a paper published in the *Guy's Hospital Reports*, has also shown that in distension of the right ventricle, the tricuspid valve allows regurgitation. He thinks this serves a good purpose, and calls it the safety-valve function of the heart.

If Dr. Blakiston's view be correct, this advantage, like most good things in this world, is not unalloyed with evil.

Dr. Bright and all physicians, who have since written on granular kidney, have noticed its frequent association with disease of the heart.

The cardiac affection, in these cases, is of two kinds:—

1st. There is, in almost all protracted cases, hypertrophy of the left ventricle (as in Symonds), and dilatation of the cavities; the consequence of long-continued dropsy. The occurrence of dropsy argues venous distension and obstacle to the circulation through the capillaries, which acts back upon the heart, calling it to increased exertion, and, of course, leading it to hypertrophy and dilatation.

2nd. There are frequently, as we found in Symonds, traces of inflammation of the pericardium, and of the lining membrane of the heart. These seem to result from the same morbid condition of the system which leads to granular degeneration of the kidneys, or, perhaps, more frequently, from the morbid state of the blood which ensues from the impaired action of those organs, and which causes a variety of secondary disorders, among the most serious of which are inflammations of the serous membranes of the chest and abdomen.

Some writers have reversed this order of causation, and have supposed that organic disease of the heart, by causing venous congestion of the kidneys, leads to the escape of serum in the urine, and granular degeneration of the kidneys; but I feel convinced that such organic change of the kidneys is seldom, if ever, brought on by mere mechanical congestion. We seldom find granular degeneration of the kidneys and serous urine in patients, of whom we have so many, who

are brought to the hospital with valvular disease of the heart, that can be clearly traced to a previous attack of rheumatic fever.

The next point to which I wish to direct your attention, is the condition of the kidneys. These were both in a very advanced state of granular degeneration. They were not more than half their natural size; were of a greyish colour, of very firm texture, and lobulated externally. The diminished size resulted chiefly from absorption of the cortical substance, which had taken place to such extent that the tubular masses nearly reached the surface of the kidney.

This disease of the kidney was of old date. It was, no doubt, the cause of the dropsy which Symonds had two years before her admission to the hospital; and, in all probability, existed a considerable time before. This variety of disease of the kidney generally comes on very insidiously, and often lasts a long time before its existence is revealed by the occurrence of dropsy.

The degeneration of the kidney was, perhaps, the consequence of the scrofulous constitution of the patient. She could assign no cause for her malady; and the first appearance of dropsy was not preceded by scarlatina, or any other acute illness. In fact, the only illness, of which she had any recollection, was the attack of scrofulous ophthalmia which occurred when she was twelve years of age. This was so severe that she remained in the hospital seven months on account of it; and it left permanent spots on each cornea.

It is the opinion of Dr. Prout, that the strumous diathesis is one of the most fertile sources of kidney disease in early life.

The fact that both kidneys are affected alike shows that their degeneration depended on some cause that acted alike on both; which, for organs so removed from external influences as the kidneys, is almost equivalent to saying that it depended on a faulty state of the general system, or on a morbid condition of the blood.

This degeneration of the kidney is attended with a great variety of symptoms, local and general.

The local symptoms—that is, the symptoms immediately referrible to the urinary organs—are usually slight. They consist of some uneasiness, or sense of weakness, across the loins, and more frequent calls to pass the urine than natural; so that the patient is disturbed once or twice in the night for this purpose. The urine is more irritating to the bladder than in health, and the patient is obliged to pass it more frequently, even when the daily quantity falls short of the healthy standard.

In advanced stages of the disease the urine, as we found it in Symonds, is usually very

pale, of low specific gravity (as 1010) and slightly opalescent from the presence of floating particles of epithelium or organic detritus. It always contains albumen, but the quantity of albumen is often small. It is commonly acid; but never deposits a sediment of lithate of ammonia or lithic acid. The quantity of urine is seldom below, often much above, the natural standard; but on account of its low specific gravity, the daily discharge of solids is much less than in health.

I am now speaking of granular degeneration of the kidney, which, in its confirmed stages, is associated with an anemic condition of the system, marked by pallid complexion and other signs of debility. Occasionally we find albumen in urine, which possesses other characters, and depends on other states of the constitution. The urine is scanty, high coloured, of high specific gravity, and throws down a copious lithic sediment.

Urine of this latter kind seems associated with an enlarged and congested condition of the kidney, which often presents no distinct granular deposit, and in which the cortical substance is larger, and the texture of the organ more soft and flabby, than in health. According to Dr. Prout, it is met with in persons of forty or upwards, of full habit, who have either inherited gout, or induced a gouty constitution by generous living and over-indulgence in wine. It indicates far less serious disease than the pale, slightly albuminous urine, of low sp. gr., which we noticed in the case of Symonds.

The general or constitutional symptoms attendant on granular degeneration of the kidney, are far more numerous, and attract more of the patient's attention, than the symptoms immediately referrible to the urinary organs. The most prominent are, paleness of the face and lips; a dry state of the skin; much thirst; impaired appetite, with vomiting and other dyspeptic symptoms; constant, or frequently recurring catarrh; and dropsy.

In Symonds, vomiting was a very prominent and distressing symptom. This confirms a remark of Dr. Prout, that vomiting and other severe dyspeptic symptoms are more frequent in young persons affected with granular kidney, in whom the urine is pale and of low sp. gr. and free from deposit; than in persons of more advanced age, in whom the urine, though likewise containing albumen, presents opposite characters.

During the slow progress of the granular degeneration, the ordinary course of the symptoms is occasionally interrupted by the occurrence of inflammatory attacks, especially of the serous membranes. It would appear that Symonds had three attacks of this kind: the first, of pericarditis; the second, of in-

flammation of the lining membrane of the heart, or endocarditis; the third, of peritonitis.

The firm adhesion of the pericardium shewed that the pericarditis occurred a long while before death.

It probably formed part of the acute attack she had two years before her admission to the hospital.

The inflammation of the lining membrane of the heart, which so damaged the tricuspid valve, occurred in the last week of July. I was a good deal out of town at this time, and no notes of the signs furnished by auscultation were taken; but the date of the affection was sufficiently fixed by the distressing symptoms, referrible to the heart, which occurred at that time, and by the supervention of the systolic bellows-sound.

The attack of peritonitis took place in the middle of September. The inflammation was of a slow, adhesive kind, and not attended by the alarming symptoms, and by the rapid depression of the heart's action, that follows some other varieties of peritonitis.

The chief symptoms were pain and tenderness; and even these had ceased, or at least were so diminished as not to excite complaint, a month before her death;—probably when adhesion had taken place.

Such inflammatory attacks, as well as the ordinary constitutional symptoms, seem to depend on the faulty state of the blood which results from defective action of the kidneys; or perhaps, in part, on the morbid condition of the system which preceded and induced the granular degeneration of those organs.

In the case of Symonds, you had an opportunity of observing some interesting points as regards the treatment of this affection.

The first was the influence of dilute hydrocyanic acid, in arresting the vomiting. From the time of her admission, we had recourse to this, at least a dozen times, and always with the same marked benefit. She took it in doses of three drops, which were generally given three times a day; but on one or two occasions, when the vomiting was more than commonly distressing, every four hours. It never failed to produce almost immediate alleviation of the vomiting.

Dr. Christison and Dr. Prout both give their testimony in favour of hydrocyanic acid in such cases. When presenting it, you should bear in mind that it is of very uncertain strength, and that in over-doses it produces very alarming symptoms; and therefore, you should be cautious in ordering full doses before you have ascertained the strength of the preparation you use.

Another interesting point was the beneficial effect of the hot-air bath; which was given on several occasions when the dropsy

was increasing, or when the general symptoms were more than commonly troublesome. It caused free sweating, and always produced decided relief.

The hot-air bath occasions some degree of exhaustion, and therefore cannot be had recourse to frequently in advanced stages of the disease. It was however given to Symonds, and with manifest benefit, a few days only before death, and when she was in a state of great debility.

By exciting copious perspiration, it relieves the vessels, and perhaps procures the escape of some of those deleterious principles (*e. g.* urea) which seem to accumulate in the blood in consequence of defective action of the kidneys.

The last circumstance I shall detain you by noticing, was the effect of digitalis in bringing on vomiting and other constitutional disorder. On several occasions when the stomach had been quieted by hydrocyanic acid, I prescribed small doses of mild diuretic medicines, and twice during her long stay in the hospital I gave five drops of tincture of digitalis, three times a day. On both occasions, at the end of a few days, she had urgent vomiting and other constitutional effects of digitalis.

I would, however, draw no inference from a single case, but I have frequently had to call your attention in the wards of the hospital to similar facts. To a man now in the hospital, with pale, slightly albuminous urine, of low sp. gr., who was admitted with what seemed to be gouty inflammation of the right great toe, I gave at first thirty drops of the wine of colchicum, twice a-day. The inflammation speedily disappeared, but at the end of two days he had vomiting, with faintness and other symptoms of an over dose of colchicum. The symptoms subsided on the discontinuance of the medicine. Subsequently, similar effects were produced at the end of two days, by tincture of digitalis, in doses of ten minims three times a-day, which was prescribed with the view of relieving oedema that came on after his admission to the hospital.

It was early remarked by Dr. Bright, and the remark has been confirmed by the observations of Dr. Prout, M. Rayer, and others, that persons with granular kidney are readily affected by mercury, and that this medicine, even in small doses, is apt to bring on salivation which is difficult of arrest.

It seems probable, therefore, that many medicines, which are difficult of excretion, and which (like colchicum and digitalis,) produce constitutional disorder by their accumulation in the blood, take effect rapidly, and in small doses, on persons suffering from granular kidney.

It is interesting to consider, in conjunction with this, the fact, which seems established

by the observation of many physicians, that such persons are peculiarly susceptible of certain diseases which depend on the introduction of specific poisons into the system.

Dr. Williams, in his admirable work on Morbid Poisons, states that the dropsical patients in a hospital are especially prone to erysipelas.

Dr. Christison says, that the kidneys have been frequently found advanced in granular degeneration in cases of death from typhus fever, which for some years past has been extensively epidemic in Edinburgh; and that the same morbid appearance was observed in a considerable proportion of the fatal cases of malignant cholera in that city.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY,

Jan. 11, 1842.

Dr. WILLIAMS, PRESIDENT, IN THE CHAIR.

An Account of a Case of Extensive Disease of the Pancreas. By JAMES A. WILSON, M. D., Physician to St. George's Hospital.

ALEXANDER TAIT, a gentleman's servant, aged 41, intemperate habits, unhealthy complexion, and distressed countenance, complained of constant pain at the epigastrium, sometimes heightened to agony. He described it as "a pulling together of the pit of the stomach," which he felt most when recumbent, and after food; and which was often accompanied by headache and giddiness. His pulse was regular, its beats 65 in the minute. In a month from this patient's admission into St. George's Hospital, and after an unusually long intermission, the pain suddenly and violently returned. Shivering succeeded, maniacal delirium, and death.

Post-mortem.—A considerable layer of fat over the muscles of the abdomen. Pericardium universally adherent to the heart, which was otherwise healthy. Lungs healthy. Brain softer than usual, and more vascular in its medullary substance. Some serous fluid on the arachnoid; very little in the ventricles. Stomach healthy. Spleen in a very soft state. Kidneys healthy.

Remarks on Typhus Fever. By JOHN BOSTOCK, M. D.

The author expresses his intention to consider typhus under three heads, viz. as asthenic, cephalic, and gastric; which he describes agreeably to these designations. He is of opinion, that the cutaneous eruption frequently seen in typhus fever need not constitute a fourth variety. He considers these varieties of fever as often complicated with each other, and referrible to a common origin.

With respect to the cause of these varieties specifically, he is unable to lay it down; but he speaks of the city of Liverpool as containing largely the exciting cause of typhus fever generally.

With respect to its mode of propagation, he considers that both infection and contagion are capable of transmitting it; and he is of opinion that its occurrence does not exempt the sufferer from a second attack, but modifies it if it occurs.

With respect to prognosis, he considers the cephalic variety the most fatal. He praises the system of affusion of Dr. Currie in reference to this variety; and with many judicious remarks on the subject of treatment, calls the attention of the society to the remarkable changes of opinion.

A case of Stricture of the Trachea. By W. C. WORTHINGTON, Esq., Senior Surgeon to the Lowstoft Infirmary. [Communicated by James Copland, M.D., F.R.S.]

The patient, an agricultural labourer, aged 49, first came under the notice of the author in August, 1837. Four years previously he had contracted syphilis, for the cure of which mercury had been administered, but to an immoderate extent. During twelve months immediately previous to his putting himself under the author's care he had been confined to the house. The state of his respiration most especially attracted the author's attention, both as regarded the peculiarity of the noise attendant upon inspiration, and the very painful effort required for its accomplishment. The sound closely resembled that produced by an unsound horse, called "a roarer;" suggesting the idea that the air passed through a tube of narrowed calibre. Each inspiration occupied ten seconds, and was obviously effected at the expense of very powerful exertion of all the muscles about the larynx. Utterance was hoarse and rough, and a troublesome cough was present. The stethoscope furnished no indication of disease of the lungs. After having suffered as above described, with little variation, for three years and a half, the patient died from suffocation, some particles of bread and milk which he was taking for breakfast having fallen into the larynx.

On dissection, the trachea, just below the cricoid cartilage, was found contracted to the size of a goose-quill, the contraction being quite independent of adventitious deposit of any kind, the product of inflammation. The tracheal rings had entirely disappeared from the strictured part, whilst below, the constrictions of the rings were somewhat dilated beyond their natural calibre. The alæ of the thyroid cartilage were somewhat approximated.

The author considers it probable that the disease had a syphilitic origin, and that the contraction of the membranous part of the trachea was consequent upon the absorption of the cartilaginous rings, and the simple result of the want of antagonism from the latter.

PHARMACEUTICAL MEETING,

January 12.

MR. PAYNE, VICE PRESIDENT,
IN THE CHAIR.

THE Chairman regretted exceedingly that their venerable President had been prevented by indisposition, and the inclemency of the weather, from being there to take his place among them that evening. The best compensation, however, which Mr. Allen could give for his absence, he, the Chairman, then held in his hand, and he would, therefore, at once proceed to read,

The President's Address.

This being the first Pharmaceutical Meeting which has been held officially by the Society in their own house, it seems desirable to make a few observations on the nature and object of these meetings, as they are connected with the general purposes of the Society, and at the same time offer a few remarks on the tendency and advantages of the education which it is intended to introduce.

It must in the first place be clearly understood that these evening meetings are entirely distinct from the ordinary business of the society, and are designed exclusively for scientific discussion, and as a means of promulgating new or important information on pharmaceutical chemistry, in an assembly comprising all classes in the medical profession.

Those discussions which relate to the government of the society, and the general welfare of the body at large, are confined to the meetings of council, or committees, the annual meeting, or any special meetings, which it may be found expedient to appoint.

The course of education to be instituted by the society, which comprises all the details of the school of pharmacy, is also under the management of the council, and forms no part of the business of these evening meetings.

The arrangements relating to the establishment of the school, the regulation of Examinations, and the appointment of examiners, have for a considerable period claimed the deliberate attention of the council, and they have been engaged in concerting measures for the early adoption of a complete and well-digested plan.

But these proceedings involve so many

important considerations, and require so much time for their satisfactory completion, that it has not been practicable to mature them, and consequently to make them public : hence it is not at all surprising that an idea should have prevailed in some quarters, especially amongst our brethren in the country, that the progress of the society has not been so uniformly rapid and satisfactory as could be desired. A little candid consideration, however, of the multifarious duties of the council, and of the constant demands upon their time for their own private affairs, will at once remove all such impressions.

The circumstance of a house being taken for the purpose of carrying out the objects we have in contemplation, relieves us from one of our most embarrassing difficulties, and will enable us to give a more undivided attention to other important matters.

The evening meetings which have been held during the last eight months, have been supposed by some persons to constitute the principal or only proceedings of the society ; which misapprehension is easily accounted for, by what has been stated ; while it is no less obvious that if no meetings of this or similar description had been held, the society might have appeared to have done absolutely nothing.

If, therefore, the pharmaceutical meetings had been instituted merely to fill up an interval of apparent inaction, and if at the opening of the school of pharmacy they were destined to cease, one object for which the experiment was tried would have been completely attained, namely, to keep alive an interest in the society, and afford a means for periodical discussion and publication during a period in which nothing would have been done to convince the members in the country, the profession, and the public, that the society was actually in progress.

But the manner in which these meetings have been supported, and the effect they have produced in gaining for the society an accession of strength, both as regards the influx of new members and the sanction of professional friends, have superseded the necessity of considering for a moment whether these periodical assemblies shall be continued or not.

The experience of other nations has pointed out the advantages which may be derived from a concentration of energy in philosophical pursuits, on an arena in which the emulation exerted among individuals is likely to call forth from each the knowledge and experience which he has acquired in his daily researches, and leads him to add it to the common stock ; but while our own favoured country has not been wanting in obtaining these advantages in other branches of sciences it has not brought them to bear on the subject of pharmacy.

The lectures, the pharmaceutical demonstrations, the library, and museum of materia medica, are intended chiefly to facilitate the acquisition of knowledge by the rising generation ; but these meetings are designed more especially for those who are capable of adding new facts to science, and proposing new processes in the art which we profess.

While, however, these two modes of promoting the attainment of knowledge are in some degree distinct, they will tend alike to elevate our character, establish our claim to recognition as a branch of the medical profession, and preserve and extend to us the continued enjoyment of the confidence and good opinion of the public.

We conceive that important results will be obtained for the public by the means which this society will provide for the education of young men, who may be desirous of becoming chemists and druggists, not only for those who may have the opportunity of availing themselves of the facilities which the institution in the metropolis will afford, but even those remotely situated will reap the benefit to be derived from the information which will be widely diffused through the publications of the society ; they will see the kind of knowledge which it will be necessary for them to acquire in the best way they can, in order to pass the necessary examination ; while the mode of obtaining that knowledge will necessarily vary with the local circumstances and situation of individuals.

One great result of the society's operations will be, that it will open a career for a number of young men of talent, who when they shall have usefully fulfilled their duties in a subordinate capacity, shall, in due time, be enabled to come forward as principals and as persons by whom the credit of our profession may be maintained, and in whom the public may place the fullest confidence.

As the nature and property of bodies are often most essentially altered or influenced by mixture, it is absolutely necessary for all who have to do with pharmaceutical operations to possess a competent knowledge of chemistry, as by this means alone we shall be able skilfully to combine the articles of the materia medica, and also to detect casual errors or fraudulent adulterations.

It is obvious, also, that a knowledge of the materia medica and of botany, as far as it relates to articles of medical efficacy, is indispensable in our profession ; whatever tends to throw light upon these subjects, will therefore claim the earnest attention of the society, and will from time to time be brought forward for the information of its members.

But it is to pharmacy that these important subjects are to be made subsidiary and subservient, and it is to this field of science and

of art that all our efforts are directed ; as that peculiar branch of the healing art, which, in modern times, has so mainly devolved upon the chemist and druggist, and in whose hands it has certainly made very considerable progress.

We attach very considerable importance to the collection of articles of the materia medica which it is intended to form ; here the finest and most perfect specimens will be exhibited, and become a most useful subject of study to the young pupil, who should be deeply impressed with the paramount importance of employing nothing in our list of remedies but articles of the first quality ; and our society should be ever on the watch to point out and diffuse a knowledge of the best methods of distinguishing between good and bad drugs.

Measures are now in operation for providing a library, which shall comprise treatises on the substances employed in medicine and everything connected with our profession, which may be freely consulted by members and associates, under regulations which shall at the same time provide as much as possible for their convenience and the security of the collection ; and as economy in the funds of the society is a very material object, members and their friends are invited to make such donations of books as they may be able to spare from their own libraries, as well as any suitable articles for the museum.

To our respected superiors, the physicians, we would beg to say, that they must be interested, in no common degree, in the results which this society is calculated to produce,—they being no less a security to themselves as well as to the public ; for however profound their knowledge of the healing art may be, and however skilful the adaptation of the means they may prescribe, yet if the articles, on which success might depend, be deficient in quality, or unskilfully prepared, disappointment must ensue, the consequences and extent of which it may not, in all instances, be easy to point out ; we, therefore, look with confident hope to this important class of the community for countenance and support.

The council has already entered into communications with the pharmaceutical society in Paris, and it is proposed to correspond with societies which have in view the same objects as ourselves, in different parts of the world ; hence a knowledge may be promptly obtained of any new remedies that may be discovered, or any improvement made in pharmaceutical preparations, while the periodical publication of our transactions will place this information within the reach of every member of the society.

In the steps which have already been taken to form the rules and regulations of the pharmaceutical society, and in the dif-

ferent meetings of the founders for that purpose, as well as in every subsequent stage of our proceedings, we have been encouraged in our labours by the good feeling and harmony which have so universally prevailed, and that a continuance of the same may distinguish the future meetings of the society is a wish that we most ardently cherish, and shall be most desirous to promote.

The papers read, were on the Daphne tribe of plants, by Mr. Squire.

On the gelatinization of tincture of kino, by Mr. Theophilus Redwood.

A VISIT TO THE ROYAL BERKSHIRE HOSPITAL.

To the Editor of the Medical Gazette.

SIR,

WHATSOEVER may be the faults of our existing medical educational institutions, one favourable result of their operation must be manifest to the vision of the most inveterate reformer—the very extensive distribution of professional skill throughout our provinces. There is not a country town of any size, in which an efficient medical staff for a large hospital might not be collected. But the great number of these receptacles for the sick poor, which are to be encountered over the surface of the country, is a circumstance creditable not only to our profession as a body, but to the benevolent and social character of our population. These spontaneous growths of the national charity are almost peculiar to the Anglo-Saxon nations, and of but recent origin. Mrs. Frowde, a lady of Westminster, in the reign of Queen Anne, planted the first small seed from which have sprung all these noble palms, which spread their genial shelter over the suffering children of men. The Westminster Hospital was the original exemplar, upon which all the subscription infirmaries to be found in these islands and in America have been formed.

Whilst riding into Reading along the London Road, a few days since, my attention was awakened by a handsome quadrangular building on my left hand, with an elegant Ionic portico. A legend, indented on the entablature, indicated that it was the Royal Berkshire Hospital. The mansion stands in the middle of a spacious piece of ground tastefully ornamented, and laid out as a promenade for the sick. The entire site was the munificent gift of Viscount Sidmouth, known forty years ago as Henry Addington, the Prime Minister of England. The notoriety which the recent accident on the Great Western Railway has given to this new Institution, induced me to alight and visit it. I was not so fortunate as to meet with any of the physicians or surgeons, but

the politeness of Mr. Dunn, the house-surgeon, who kindly acted as my chaperone, removed all regret on this account. The edifice consists of a body and two wings, and is but two stories high. The body is taken up with the hall, and various offices, such as physicians' and surgeons' rooms for seeing out-patients, dispensary, bath-room, &c. on the ground-floor. On the first-floor, officers' apartments, museum, operation theatre, &c. All these apartments are tolerably symmetrical, and of suitable dimensions, and contain every thing which the most recent science points out as requisite or advantageous.

The wards are six in number, and occupy the wings, which are respectively appropriated to males and females. Four of the wards contain fifteen beds each, a number which may most conveniently be attended to by two nurses, both as regards cleanliness and police; and two wards, adequate to contain four beds each: such small rooms are admirably adapted for certain cases which occur in these institutions, and require seclusion. From a rough measurement, the respirable space devoted to each bed appears to be 1456 cubic feet, that of the Hôtel Dieu being 1600, and that of the New Westminster Hospital, 1900. The neatness and cleanliness of the beds, utensils, and every adjunct, appear to be perfect, and I was glad to observe that every bed was amply supplied with curtains; a circumstance of grave importance on the female side of the house.

The hospital is capable of containing 68 beds only, and is consequently too small to admit much nicety of classification. The only division is of the sexes. The physicians' and surgeons' patients are intermixed, and all the cases are necessarily thrown together without discrimination. If scientific classification is inadmissible, so must, *a fortiori*, moral classification be. But the more perfect supervision which exists in small establishments, neutralizes in a great degree the evils which arise in large hospitals from a want of moral classification. The breath which has been expended by our statesmen in orations on the classification of criminals in prison, would fill the sails of a British fleet, and propel it over the ocean, and the expanse of surface written over on the same subject would cover the area of a continent; but who has ever said or written a word upon the moral classification of the sick in our public receptacles for the poor?

That "evil communications corrupt good manners," is a heathen as well as a christian maxim, and is fearfully exemplified in the larger hospitals, both in England and on the continent. The question which the physician or surgeon has to decide in admitting a patient into one of these asylums, relates exclusively to the disease; the character of the individual is entirely out of his province.

In some instances, venereal patients are separated from the rest, but rogues and prostitutes are liable to all diseases, and if a person of this description apply with inflammation, or any other than the proscribed malady, what medical man will venture to set him or her apart? The child of the virtuous poor man is placed in the next bed to, and within the contaminating influence of, the most vile of either sex. Procuresses give large premiums to the introducers of fresh virgins into their dens of infamy, and the writer personally knows it to be a common practice for the wretched instruments of these persons (often their former victims) to corrupt, and ultimately lure away to their destruction, young and hitherto pure-minded females; the whole infernal process of seduction having been completed in the hospital wards. The mischief is equally enormous as regards the other sex.

The wards of the Berkshire hospital did not present an appearance of sufficient tranquillity. Visitors had been admitted too numerous and indiscriminately, and the whole scene was much too agitating for the nerves of a patient seriously ill. This hospital, like its predecessors almost everywhere, does not possess a library for the use of the convalescents, who are left in a state of idleness, which engenders ennui; a mood of mind highly favorable to the success of the corrupting causes which I have just mentioned.

With respect to medical or surgical practice, I did not observe any novelty, unless the frequent use of that excellent invention, Mr. Knox's revolving bed, may be so considered, and the employment of treacle as an application to burns, by Mr. Bulley.

The staff consists of three physicians and three surgeons, Dr. Smith, Dr. Cowan, and Dr. Woodhouse; Mr. George May, Mr. Maurice, and Mr. F. A. Bulley. All these gentlemen are highly skilful and respectable men, and furnish an extensive district with all the aid which sound science and practical dexterity can supply. The reputation of the majority is confined to this province. Dr. Cowan has, I believe, been guilty of a French translation, and is somewhat noted for a hyperbolical zeal in the cause of medical reform and of phrenology! Mr. Frank Bulley, too, has acquired some celebrity for the acuteness he displayed in detecting his own mistake in the case of the impostor Cavanagh.

The inferior duties of the hospital are efficiently performed; that part of the mansion which is conducted on the principles of the Brunonian system, I mean the *kitchen*, is beautifully clean and well arranged. From the newness of the Institution, one important, but it is to be hoped temporary, evil arises, a deficiency in the number of pupils; a set

of functionaries who contribute most materially to the efficient working of these machines.

I felt much interest in inspecting the infant museum, an undertaking which progresses but languidly, but which I trust an enlightened liberality, (but another name for their true self-interest,) will induce the neighbouring practitioners to patronize. I was agreeably interrupted by the entrance of one of these gentlemen, Mr. Weight, of Wokingham, who come to present a morbid heart. A slight inspection informed me that thinning and ramollissement of the left cavities, and remarkable hypertrophy of the right cavities, existed. An opening was visible in the root of the mitral valve, circular in shape, and in diameter *three lines*, keeping up a constant communication between the left auricle and ventricle. Mr. Weight is about to publish an accurate history of the case, and of the physical and pathognomical signs.

The Royal Berkshire Hospital has now been opened two years, but, with one or two honourable exceptions, the county gentry have not given it any very enthusiastic support. An institution of such unambiguous excellence, of such social and political importance, has in these agitated times an urgent, an imperative claim, upon the support of the aristocracy both of rank and of wealth. The people contribute by their sweat, to the creation and conservation of property, and are beginning to consider medical aid—the necessary means of keeping up their efficiency as producing machines—in the light of a civil right. It would be something like good policy with gentry to maintain these institutions generously. One bright instance of munificence I am happy to record, that of Benyon de Beauvoir, who subscribes £1000 annually to this charity.

I must now apologize for occupying so much of your valuable space, but I am confident you feel sufficient interest in the prosperity of this interesting Institution, to concede an insertion of these remarks.

I am, sir, your constant reader,

IDIOS.

Twelfth-night, 1842.

REMARKS ON SALIVA.

To the Editor of the Medical Gazette.

SIR,

As every thing which tends to elucidate disputed points, in any of the various departments of our profession, is acceptable to you and your numerous readers, and as attention has recently been drawn, by Dr. Davidson, to certain conditions of the saliva, I beg to trouble you with the following observations on other states of the same fluid. Physiolo-

gists, as you are aware, sir, have for a long period been undecided as to the chemical properties of this fluid, and numerous experiments have been made with a view of determining the point. In most of these instances the fluid was obtained from the mouth, whilst in others it has been procured directly from the parotid gland, when by accident or disease, as sometimes but, rarely, happens, a fistulous communication with the Stenonian duct has been established.

The experiments with the fluid from the mouth have been deemed by most unworthy of confidence, since the saliva was rendered impure by the admixture of mucus derived from the innumerable glands studding the lining membrane of the cavity of the mouth. Those made with the fluid obtained direct from the duct of the gland, have had more reliance placed upon them, from the supposed purity of the saliva so obtained.

The following are a few of the statements made by physiologists of eminence concerning it.

The saliva was said by Haller to be possessed of alkaline properties. Mitscherlich states it to be always acid during abstinence, but that it becomes alkaline when masticating food. Tiedemann and Gmelin found it generally alkaline; on some occasions neutral, but never acid. Schultz says that it is alkaline in children and adults, but that in the latter it becomes acid when long held in the mouth.

From these and other statements of a similar character, I was led, some time since, to examine the subject, believing that all the opinions might possibly be reconciled. On testing my own saliva, when not eating, I invariably found indications of an acid, from the litmus paper being reddened by it. After beginning to eat a few crumbs of bread, which could have no influence, it produced no perceptible effect on litmus or turmeric paper, so that it appeared to be neutral; but in a very short time I noticed that turmeric was much browned, and litmus, slightly reddened, was rendered quite blue, thus proving that the fluid had become distinctly alkaline. After waiting for a short time the fluid became acid again as at first. This was frequently repeated on myself, and subsequently on others, with precisely the same results.

So far these observations appeared to accord with those of other observers. The matter, however, was not satisfactory to my mind, for I could not conceive, by any process of reasoning, how a gland, with its minute structure remaining unaltered, and supplied with blood of the same composition, could in the space of two minutes, or even less, secrete a fluid first acid, then neutral, and lastly alkaline: and this too for any number of times, in an equally short period,

if an interval be allowed between the experiments. It seemed like a chemical and physiological impossibility, and is, I believe, contrary to analogy, since, in health, all glands should, other conditions being equal, secrete fluid having the same properties at one time as another. I therefore sought for an explanation of the circumstance, and the one which occurred to me as being the most probable was, that instead of this variety in properties being produced by the secretion of one set of glands, it might arise from a different set of glands pouring out fluid with dissimilar properties to the other.

On carefully washing and drying the mouth, I found the secretions issuing from the ducts of the sublingual and submaxillary glands to be alkaline, and concluded that of the parotid was the same in properties. The only other glands then remaining to produce a different secretion, were the small ones so plentifully scattered over every part of the mucous membrane of the mouth. On drying the sides of the cheeks and lips, and waiting till they became moist, they were found to redden litmus paper placed in contact with them; whilst by exciting a flow of saliva, at the time these points were protected from contact with it, I obtained the indication of an alkali at the bottom of the mouth by the sides of the tongue, and of an acid at the sides of the cheek. This at once appeared to explain the facts first noticed, and I drew the following conclusions from it.

1st. That the fluid found in the mouth when not eating, is mostly if not altogether mucus possessed of acid properties.

2nd. That on taking food, or when a flow of saliva occurs from the smell, sight, or taste of food, the fluid poured out, after a time, is strongly alkaline.

3rd. That the neutral fluid, found in the mouth on beginning to eat, arises from the first portions of alkaline saliva which flow neutralizing the acid mucus.

4th. That for some time after eating, the fluid in the mouth remains alkaline, from an excess of saliva that has been spread out over the cheeks, &c. by the mechanism of mastication, but that after a time it becomes neutral, and then acid, from the acid mucus being secreted in excess.

I am aware that objections may be raised against these conclusions, on the ground that the saliva in the mouth is not pure, and that the variations in its properties have been found when the fluid has been collected pure from the duct of Steno. The same reasoning will apply, however, to these cases, for we must bear in mind that glandular ducts are lined with mucous membrane, which contains the small glands throughout to their most minute ramifications. These small mucous glands, we may suppose, are continually pouring out their secretion,

whilst the real saliva is only produced at certain times, as from the stimulus of food, &c. Supposing this to be correct, the fluid first collected would be acid, that which comes next neutral, and the last produced alkaline, which would remain so till again neutralized by the flow of mucus after that of the saliva has ceased.

Believing that these observations tend to elucidate all the facts observed, I venture to suggest them for the consideration of physiologists and others.

Whilst on this subject, I will in conclusion notice Dr. Davidson's remark on the disappearance of the sulphocyanogen from saliva. May not the absence of it be ascribed to the mercury increasing the flow of mucus, rather than of real saliva, in those labouring under the influence of that mineral? Would it not be advisable to first wash out the mouth, and then excite a flow of saliva, which being the genuine secretion, should be tested? It would be better still if the same were tried in those cases of fistula of the parotid duct when they occur, and the person has mercurial ptyalism produced. The fluid tested may, perhaps, have been mucus without much saliva, which would appear to have lost its sulphocyanide of sodium.

Apologizing for the length of this communication, I beg to remain,

Yours respectfully,
A. H. Z.

Islington, January 12th, 1842.

ACUTE ARTICULAR RHEUMATISM,

ATTENDED WITH PERICARDITIS, AND
AFTERWARDS BY SYMPTOMS OF DELIRIUM
TREMENS.

A MAN named Reddy, aged 27, was admitted into the Meath Hospital, June 19, 1841. He was a workman in the porter brewery of the Messrs. Guinness, and was in the habit of consuming daily large quantities of their famous XX porter, besides whiskey. Three weeks before admission he was attacked with rheumatism in all the large joints, which when we saw him were swollen, red, and painful; the fingers of both hands were semi-flexed, and he could not bear them to be touched; his countenance was dejected and expressive of intense suffering; pulse 72, weak but regular; heart's action normal; profuse sweating; inability to move in bed; insomnia; loss of appetite, and thirst. He was bled and put on the use of calomel and opium; the quantity of opium taken daily was four grains. The next day, 21st, pericarditis was detected; there was nothing remarkable in the signs; the mercury and opium were continued; cupping over the heart followed by blisters directed, and on the twenty-fifth day salivation set in; the cardiac symptoms subsided, and the inflam-

mation of the joints greatly disappeared. The quantity of calomel was diminished from twelve grains, daily, combined with four grains of opium to three of the former with one-fourth of the latter every second day. On the 26th the rheumatism appeared much relieved, and the pulse was 88, soft and regular, yet there was something unusual about his appearance; his countenance was excited, and his eyes bright, and on inquiry we ascertained that he had slept none during the night, and that he had raved the whole time, occasionally shouting and singing. On the 27th he was much worse, he lay quite prostrated on the bed, the upper part of his body was covered with a profuse perspiration, he had twitching of all the muscles of the face, subsultus, and tremor of lower limbs, he slept none, but raved all night, and about three o'clock, A.M., got out of bed and endeavoured to break through a door into the adjoining ward. His tongue was dry and unsteady when protruded, he answered questions, however, rationally, and said he had no headache; pulse 116, very weak.

He was now ordered one grain of opium, in the form of pill, every fourth hour, and four ounces of wine in the day.

On the 28th the report states that he fell asleep after the third pill (about eleven o'clock), and did not awake for six or seven hours, when he again commenced shouting and singing, but soon became quiet, and at eight o'clock the following day the tremors had greatly diminished; his countenance was vastly improved, skin cool, tongue steady when protruded, but dry and furred, and his intellect restored. It was found necessary to increase the wine from four to sixteen ounces since the 27th.

On the 28th all the symptoms of delirium tremens had vanished; he was free from headache, his skin cool, tongue moist and no thirst, and the pain in the joints nearly gone.

The wine and opium were now both diminished gradually, and in ten days after he was discharged perfectly cured.

The complication of delirium tremens with acute rheumatism is not by any means common, and it is remarkable that in this case the first symptoms of the affection manifested themselves the day after the quantity of opium was diminished. Can we explain this by supposing that the opium acted as a stimulant, and that being stopped suddenly it produced the same train of symptoms that usually follow the leaving off any strong stimulant that had previously been largely indulged in?

This explanation may seem at first plausible, but we know from experience that when opium acts beneficially, as a medical agent, it seldom produces any of the bad

consequences that follow its exhibition in a healthy state of the body; an illustration of which this case affords, for we find that it neither occasioned headache, heat of skin, furred tongue, thirst, contracted pupil, or acceleration of the pulse. We must, therefore, look upon the circumstance as a mere coincidence, and we can easily comprehend how delirium tremens might occur in a patient of intemperate habits during the course of a painful illness, by which he was much reduced and worn down.

Opium has lately been much employed in the treatment of acute articular rheumatism, and we are indebted to Dr. Corrigan for an excellent paper on this subject. The practice is, however, by no means new, for opium has long been employed for this purpose in America, and I find that the celebrated Doctor Pearson, of London, used it in preference to all other remedies.

In the third volume of the Medical Gazette there is an account of a discussion at the Westminster Medical Society, upon the treatment of acute rheumatism, and Dr. Gilbert Burnett is reported to have said, that "he was a pupil of Dr. Pearson's, but had always heard him speak of calomel with absolute detestation, while he administered opium in all cases of rheumatism almost to the exclusion of any other means." This does not, however, detract in the least from the merit of Dr. Corrigan's paper, for we are indebted to it for the revival, if not for the origin, of a very excellent mode of treatment, and one that will be found, in many cases, to succeed admirably.—*Dr. Graves, in Dublin Journal.*

ON ERGOT OF RYE.

ERGOT OF RYE, one of the most active substances used in the obstetrical art, has been the object of recent researches on the part of M. Bonjean, of Chambéry. He has determined, by numerous experiments—1st. That the ergot, gathered the first day of its formation, has not the poisonous properties which it possesses when taken on the sixth day. 2d. That a heat of 100° C. (212° Fr.) produces the same effect as gathering it too early. 3d. That fermentation also deprives it of its properties. 4th. That old and damaged ergot loses nothing in this respect; which circumstances are important, as they serve to explain the want of success which sometimes attends its administration.

M. Bonjean has discovered two different active principles:

1st. One, which acts as a poison, is the oil of ergot, of a uniform consistence, an acrid flavour, a yellowish colour, soluble in cold ether and in boiling alcohol, possesses poisonous properties in a high degree. The author considers that twelve grammes of this oil are equivalent to thirty-two grammes

of the ergot of rye; but he has observed, that at a temperature of 80° or 100° (C.) it loses these violent properties, and becomes converted into a resin. It is, therefore, better to prepare it with cold ether.

2d. The aqueous extract is obtained by treating with water, the powder, either deprived of its oil or not; it is brown, of a thick consistence and musty smell. It is soluble in water, and can be formed into mixtures, syrups, pills, &c. It is not at all poisonous, but possesses very decided anti-hemorrhagic properties, which induced the author to call it *anti-hemorrhagic extract*; but it appears, that to name a product, which has been but little examined, according to one of its effects, is objectionable. M. Blanc, of Aix-les-Bains, has obtained excellent effects from the use of this extract; in a case of abundant and obstinate hemorrhage, giving from fifty centigrammes to one gramme in the course of the day. M. Bonjean thinks it applicable to hemorrhages, whether simple or puerperal.

He insists on the real advantage of separating the two active principles, by analysis, the styptic extract and the poisonous oil. —*Journal de Chimie Médicale; and Pharmaceutical Journal and Transactions.*

UNIVERSITY OF LONDON.

EXAMINATION for honours of Candidates who obtained the degree of Bachelor of Medicine in 1841. The names are arranged in the order of proficiency :—

Physiology and Comparative Anatomy.—Potter, John Philips (Scholarship and Gold Medal, University College; Parkes, Edmund Alexander (Gold Medal), University College; Carlill, John Burford, University College; Heaton, John Deakin, Leeds, and University College; Gull, William Withey, Guy's Hospital; Way, William, University College.

Surgery.—Potter, John Philips (Scholarship and Gold Medal), University College; Carlill, John Burford, University College; Gull, William Withey, Guy's Hospital; Way, William, University College; Noyes, Henry George, Guy's Hospital.

Medicine.—Sewell, Charles Brodie (Scholarship and Gold Medal), University College; Francis, Dayrell Joseph Thackwell (Gold Medal), Guy's Hospital; Parkes, Edmund Alexander, University College; Gull, William Withey, Guy's Hospital; Heaton, John Deakin, University College.

Midwifery.—Way, William (Gold Medal), University College; Noyes, Henry George, Guy's Hospital.

Structural and Physiological Botany.—Heaton, John Deakin (Gold Medal, Leeds, and University College; Carlill, John Burford, University College.

ROYAL COLLEGE OF SURGEONS.

LIST OF GENTLEMEN ADMITTED MEMBERS.

Friday, Jan. 14, 1842.

F. Eldridge.—H. Budd.—H. Kindall.—W. O. Markham.—W. Mercer.—W. L. Metcalfe.—F. H. Hale.—R. J. Peckham.—R. J. Spitta.—S. S. Stedman.

A TABLE OF MORTALITY FOR THE METROPOLIS,

Shewing the number of deaths from all causes registered in the week ending Saturday, Jan. 8, 1842.

Small Pox	5
Measles	32
Scarlatina	8
Hooping Cough	56
Croup	6
Thrush	3
Diarrhoea	3
Dysentery	2
Cholera	0
Influenza.....	2
Typhus	18
Erysipelas	4
Syphilis	0
Hydrophobia.....	0
Diseases of the Brain, Nerves, and Senses ..	143
Diseases of the Lungs, and other Organs of Respiration.....	320
Diseases of the Heart and Blood-vessels	21
Diseases of the Stomach, Liver, and other Organs of Digestion	55
Diseases of the Kidneys, &c.....	5
Childbed	6
Ovarian Dropsy	0
Disease of Uterus, &c.	2
Rheumatism	0
Diseases of Joints, &c.	3
Ulcer	0
Fistula	0
Diseases of Skin, &c.	1
Diseases of Uncertain Seat	140
Old Age or Natural Decay.....	72
Deaths by Violence, Privation, or Intemperance	40
Causes not specified	4
Deaths from all Causes	971

METEOROLOGICAL JOURNAL.

Kept at EDMONTON, Latitude 51° 37' 32" N. Longitude 0° 3' 51" W. of Greenwich.

January.	THERMOMETER.	BAROMETER.
Wednesday 12	from 27 to 34	29·95 to 29·93
Thursday . 13	23 33	29·81 29·65
Friday . . 14	25 35	29·44 29·57
Saturday . 15	22 37	29·78 29·85
Sunday . . 16	17 39	29·61 29·78
Monday . . 17	28 39	29·91 30·10
Tuesday . 18	20 33	30·20 30·30

Prevailing wind, S.W.
On the 12th overcast; snow in the morning. The 13th overcast; snowing fast all the day. The 14th, morning cloudy, with a little rain; otherwise clear. The 15th, afternoon overcast; otherwise clear. The 16th generally cloudy; rain in the morning and evening. The 17th, clear. The 18th, morning clear; otherwise cloudy.

Amount of melted snow and rain, ·31 of an inch.

CHARLES HENRY ADAMS.

WILSON & OGILVY, 57, Skinner Street, London.

THE
LONDON MEDICAL GAZETTE,

BEING A
WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

FRIDAY, JANUARY 23, 1842.

LECTURES
ON THE
PRINCIPLES AND PRACTICE OF
PHYSIC,

Delivered at King's College, London,

BY DR. WATSON.

Pericarditis: its frequent connexion with acute articular rheumatism. Rheumatic carditis. Anatomical characters of acute inflammation of the pericardium; of the endocardium. General symptoms. Auscultatory signs. Relations of carditis with articular rheumatism.

I YESTERDAY considered, cursorily indeed, but as fully as the limits of these lectures will permit, the effects of hypertrophy, and of dilatation with and without hypertrophy, of the several chambers of the heart: and the means we possess of obviating or alleviating those effects. I passed in review also the chronic changes to which the *endocardium*, and especially those parts of it which cover the valves, and the tendinous rings that give support to the valves, are liable; and most of the circumstances which give origin to such changes: and I spoke of that singular and perilous affection to which the name of *angina pectoris* has been applied. I proceed this afternoon to the diseased conditions of the *pericardium*. This membrane is often the seat of acute inflammation; and the consequence of such inflammation is sometimes, though rarely, the speedy extinction of life. But in 19 cases out of 20, the disorder proves fatal at a remote period; destroying the subject of it more slowly indeed, but almost as surely. Pericarditis is therefore, and has always been regarded as, a very interesting disease; and the more so, that it is in many instances a very *insidious* disease also.

Acute pericarditis is liable to arise, like all other internal inflammations, after expo-

sure to cold; or when no exciting cause is to be discovered. But for one such case of what may be called spontaneous acute inflammation of that membrane, you will meet with a dozen, or more, in which it occurs in connexion with a disease that we have not yet had before us—acute rheumatism; inflammation, of a specific character, affecting the structures that lie around the joints, or enter their composition—the *fibrous* tissues. I shall therefore consider acute pericarditis with reference to its occurrence in rheumatism; for in so doing, I shall embrace all the points which belong to it under any form. But I must tell you, that when *pericarditis* happens, in the course of an attack of rheumatism, so also, to the best of my belief, in almost every case, does *endocarditis*. For this reason I shall include, in the account I am desirous of giving you, of *rheumatic carditis*, both these inflammations: inflammation of the investing membrane, and inflammation of the lining membrane of the heart. I mentioned in the last lecture, that, in respect to the latter, to *endocarditis*, there were some peculiarities observable which I should reserve for the present occasion.

The pericardium is one of the serous membranes; so also may the endocardium be considered. But the pericardium is also a shut sac; and the primary effects of inflammation upon it are the same, *mutatis mutandis*, as upon the shut sac so near it, the pleura. The second series of effects are however much more formidable. Adhesion of the pleura does not necessarily abbreviate the natural term of the patient's life; adhesion of the pericardium almost always does: and effusion into the cavity that contains the lung is far less serious than effusion into the bag that surrounds the heart. In the one set of organs the mischief may be great, but it is *final*; in the other, it leads, with unfailing certainty, sooner or later, to worse changes, which at length prove incompatible with the further continuance of life.

You will understand, then, without the necessity of my going again into much detail, that the pericardium, under acute inflammation, may undergo the same changes, which, on a former occasion, we saw that the pleura may undergo. Coagulable lymph may be poured forth from the entire membrane, and abolish the cavity by glueing the whole of the pericardium to the heart: or serous fluid may be effused, which will distend the bag of the pericardium, and keep its smooth surfaces more or less asunder: or both serum and lymph may be effused together; or fibrin, in some shape or another, may be *deposited*, for aught I know, from the homogeneous fluid which is thrown out by the inflamed membrane in the first instance; and the result of this mixed effusion may here also, as in the case of the pleura, be the *partial* adhesion of the membrane to the heart.

But in the majority of instances the inflammation spreads over the whole membrane, as it is apt to do in serous membranes generally; and one of these two things happens: either there is a large quantity of liquid effusion, which is not reabsorbed; and then generally the patient dies in a few days: or there is not much liquid effusion, or the liquid part of it is absorbed, and the pericardium is permanently agglutinated to the heart, and *apparent* recovery takes place.

In the cases that have proved fatal at an early period, when the inflamed membrane has been unadherent, it has been found to contain serous fluid; sometimes clear, oftener turbid, frequently tinged with blood: and it has been seen to be covered with a coating of the fibrinous or albuminous part of the blood; what we call plastic or coagulable lymph. The deposited lymph assumes a variety of forms in different cases; but in every case that I have seen, the prevailing character of the unattached surface has been that of *roughness*; and this is a circumstance of some importance, as we shall presently see. The lymph is not arranged in smooth layers; but it is rugged, villous, or cellular. According to the fancy of different observers, it has been thought to resemble lace-work, or a sponge, or a honey-comb, or some kinds of coral, or the interior of a calf's stomach. Sometimes it bristles with a multitude of small, short, pointed papillæ: less frequently it is softer and shaggy; always it is rough and uneven. Dr. Hope, following Laennec, states that the surface looks sometimes like that which would be produced by suddenly separating two flat pieces of wood, between which a thin layer of butter had been interposed. To my own eye, the appearance presented by the membrane, in its recent condition, has been more like the rough side of the pieces of tripe which you see in butchers' shops than any thing else.

When, on the other hand, the patient dies, as he sometimes will do, soon after the whole of the membrane has become adherent, you will find the medium of adhesion to consist of lymph, in which a number of bloody points or streaks are visible: but still the connecting substance is soft, and the agglutinated membranes can readily be torn apart.

Such is the state of things on the *outside* of the heart in such cases. But what do we find *within*? Why, here also, in *all* cases *probably*, certainly in by far the majority of cases, we discover evident traces of active inflammation; and we discover them chiefly on the valvular apparatus. There does not appear to be such a tendency in endocarditis to diffuse itself over the whole membrane. Occasionally that naturally transparent portion of it which covers the muscular fibres is rendered whitish and opaque; and occasionally some of the deposits, that are common on the valves, encroach also somewhat beyond them, and even stud, here and there, the interior of one or more of the chambers of the heart, and especially of the left auricle. But the valves, or the cartilaginous rings from which they spring, are the parts first and chiefly implicated, especially the aortic valves, and the mitral valve: not uncommonly the tricuspid valve also; and sometimes even the semilunar valves of the pulmonary artery. Inflammation thus affecting both the external and internal membranes of the heart, in acute rheumatism, I would call *rheumatic carditis*.

The inflamed valves undergo two kinds of change, distinct from each other. They become thicker than natural; they lose their transparency and pliancy, and are puckered. These changes depend upon the deposit of lymph *beneath* the membrane; between the membrane and the cartilage it covers. Sometimes they are folded down, and glued, as it were, to the opposite surface. This must be by coagulable lymph deposited on the *outer* side of the membrane. But more frequently than all, they present more or fewer of those wart-like excrescences, or fleshy granulations, which I spoke of in the last lecture, and which are of course *above* the membrane. Sometimes these vegetations are scattered irregularly over the convex surface of the valve, or in its immediate neighbourhood; but much oftener they have a more definite and curious distribution; an arrangement which I have never seen noticed by any author, but which it has been my lot to see so many times, that it has led me to observe an anatomical peculiarity with which it is connected; and this piece of minuter anatomy I have looked for in vain in books, and have in vain sought information about it from all my anatomical acquaintances. They none of

them have seemed to be aware of it, though they acknowledged that the fact was so when I pointed it out to them. Mr. Kiernan tells me, however, that the peculiarity of structure to which I allude is somewhere adverted to by Senac.

It becomes necessary, therefore, that I should describe this discovery of mine (if it deserves so grand a name) to you, as I have, for several years past, been in the habit of shewing it to the pupils of the hospital in the dead-house. Its chief interest consists in the light it throws upon the morbid appearances to be spoken of afterwards. You will find, then, if you examine closely the semilunar valves of the aorta, or of the pulmonary artery, that each valve may be divided into two parts; one thicker, the other thinner. The thicker part lies next the base of the valve; the thinner next its edge. And the valve does not become thin by degrees, but the difference is marked by a distinct line of separation between the thicker and thinner portions; and this is not a straight, nor even one sweeping curve line, but it is a double curve. It consists of two curved lines, running each from the centre of the edge of the valve, from the sesamoid body there situated, to either extremity of the edge, where the edge joins the side of the aorta. So that there are two segments, of a crescentic shape, thinner and less opaque than the remaining part of the valve, lying near its free margin. This peculiarity of structure is uniformly present. It is less distinctly visible in the valves of the pulmonary artery than in those of the aorta; and it is much less apparent in some individuals than in others; but it is always to be seen when it is looked for.

The anatomical cause of this arrangement is not far to seek. The cardiac valves consist of a loose duplicature of the delicate endocardium, between the folds of which is received a thin prolongation of fibrous tissue, from the tendinous rings surrounding or constituting the several orifices that are furnished with a valvular apparatus. In the semilunar valves this fibrous substance does not interpose itself between the entire space of the folded membrane. It reaches the free edge of each valve at three points only; namely, at the centre, where it forms the *corpus aurantii*, and at the two extremities. Between these points it stops short, and has a definite limit and outline; a scalloped edge: and so leaves two crescentic portions of the valve formed merely by the doubled endocardium. The crescentic margins are thin and transparent: the remaining shield-shaped portion of the valve is more or less thick, firm, and opaque.

And the physiological reason of this arrangement is also apparent enough; though I failed to perceive it until it was pointed out to me by Mr. Thurnam. Each valve, when opened out, is convex towards the

ventricle. The three valves do not merely meet by their edges. Their common purpose would be but insecurely consulted if such were the case. They meet and bend up, and come broadly into contact with each other. Each valve during the diastole has its right and left crescentic portion applied respectively to the corresponding portion of its right and left fellow valves. The thin segments are pressed mutually together, and lie *dos à dos*, as dancers say; while their edges look in the direction of the vessel. All this you may convince yourselves of by injecting the aorta of an ox with wax, and picking out the wax when it is cold.

Now the curious fact which first led me to remark this natural structure is, that the minuter vegetations, which form upon the aortic valves, in acute rheumatic carditis, most commonly arrange themselves in a row, like a string of beads, along the line of union between the scalloped edge of the thicker scutiform portion of the valve, and the inner convex margin of the two thinner crescentic portions. Sometimes they follow that double festoon very exactly and completely: sometimes the continuity of the line is broken, and the excrescences straggle from it a little; but still the general tendency to adhere to it is plain. No one that I know of has publicly noticed this fact; yet that it is a fact, a good many persons, who have been for some time about the Middlesex Hospital, are perfectly aware. The truth is, that death seldom happens early in these cases; and perhaps the valves have not always been carefully examined when opportunity did offer. My friend, Dr. Latham, had been watching for such a case in vain for some years. Recently, however, two of his hospital patients died in the first attack of rheumatic carditis; and he tells me that, looking with great interest for the morbid appearances within the heart, he found them such as I have been stating. I have chanced to see six or eight such cases.

The arrangement just described is the most common one, as far as the aortic valves are concerned: but sometimes even there, and generally upon the mitral and the tricuspid valves, the little wart-like excrescences have a different position; jagging the free edge of the valve with numerous fine serræ, like the teeth of a small saw; or being disposed, just within its border, in one continuous line.

After what has been said, you will readily detect the physical cause of this curious distribution of the wart-like excrescences. The membrane suffers *acute* inflammation. Soft lymph exudes from, or is deposited upon it: and as fast as it is formed it is pressed aside, by the repeated concurrence of the opposed surfaces, from the crescentic portions of each valve; and heaped up along the boundary lines of contact: just as a thin

layer of butter on a board would be displaced, and heaped up in a little curvilinear ridge, by the pressure of one's thumb. The double festoon, and the little marginal teeth, are obviously both formed in this way.

If my verbal description has been insufficient to make all this clear to your apprehension, the drawings before you speak, I hope, in plainer language.

These, then, are the appearances commonly seen within and without the heart, when the patient does not long survive the first attack of rheumatic carditis. When death takes place at a later period, you find more than this. You find the consequences, which flow from these primary lesions, operating as mechanical causes of further change: hypertrophy and dilatation in their various degrees and combinations.

You will please to bear the primary changes in mind; for they satisfactorily account for the *physical signs* of pericarditis and of endocarditis which are displayed in these cases, and which I shall describe and explain after I have shortly inquired into the *general symptoms*.

The symptoms, then, of pericarditis, as set down by authors, and such as I have myself frequently noticed, are the following. There is often, very early in the disease, a singularity of manner, and peculiar expression of countenance, difficult to describe, yet strikingly manifest to the observer; a strangeness of deportment mixed somehow with an aspect of distress. To this are frequently added, palpitation; a sense of oppression at the epigastrium; a catch in the breathing; a dry cough; inability or unwillingness on the part of the patient to lie on his left side; pain in the situation of the heart, increased by a full inspiration, by pressure upon or between the corresponding ribs, and more particularly increased by pressure upwards against the diaphragm by means of the fingers thrust beneath the cartilages of the false ribs; stiffness and pain in and about the left shoulder, and extending thence down the left arm, and stopping short perhaps at the elbow or wrist. This last circumstance, however, the pain shooting down the arm, is more common in *chronic* affections of the heart. And I have yet another symptom to mention, and a very important one; and that is delirium, often wild and furious delirium, not dependent upon any disease of the encephalon.

Of course there are also the febrile symptoms which accompany the acute rheumatism; or if the pericarditis occur independently of acute rheumatism, there will be fever symptomatic of the local inflammation.

Now each of these symptoms I have repeatedly observed; but they seldom all concur in the same case. If they did, there would not be much difficulty in the diagnosis: nor

would the cardiac disease be so often overlooked as it is. The diagnosis of pericarditis has been confessedly uncertain and obscure. Not unfrequently, nearly all the symptoms I have been enumerating are wanting; or so indistinctly marked as to attract no attention. It is therefore an important matter to ascertain what help we may derive, in these equivocal cases, from auscultation.

In truth, the help we sometimes get is peculiarly valuable and satisfactory. There are certain morbid sounds to be heard when the heart is beginning to labour under rheumatic carditis.

The morbid sounds which may reach the ear applied in such cases to the surface of the chest are two: very distinct the one from the other, and very distinguishable; depending upon different causes, and denoting diversities of operation and of site in the morbid processes going on within. But they are not both heard in all cases.

One of these sounds I have been accustomed to call a *to and fro* sound. It conveys to the ear the notion of the rubbing of two rough surfaces, backwards and forwards upon each other. It seems near to the ear; and therefore near to the surface of the patient's body. Like all the other morbid sounds heard within the chest, it is capable of much variety in tone and degree. Sometimes it very closely resembles the noise made by a saw in cutting through a board. Sometimes it is more like that occasioned by the action of a file, or a rasp, or a nutmeg-grater. But its essential character is that of *alternate rubbing*; it is a *to and fro* sound. This very peculiar sound I had noticed and described, and explained, before I was aware that it had attracted the attention of any other persons. Others, however, had remarked it, and had correctly interpreted its meaning. I claim no credit therefore for the discovery of what I think a very important symptom: but I claim for the symptom itself that additional weight which accrues to it, from its having been originally perceived by different observers, independently of each other. The person who, in this country, without my being aware of it, had noticed and published some cases in which this phenomenon occurred, is Dr. Wm. Stokes, of Dublin. There is a good deal said about it by Bouillaud also; and he too appears to have discovered the sound, without any previous knowledge of its having been noticed by others. I have heard the *to and fro* sound now in upwards of a score cases. In a few of these it never ceased except with life. The patients died during the primary attack, and the *to and fro* sound remained as long as the heart continued to beat. In all the other cases, the *to and fro* sound was audible for a few days only, and then ceased entirely and for ever: the patients recovering more or less completely.

The other of the two morbid sounds, is the ordinary bellows-sound, with which you are already familiar. In the cases in question it is a single sound; a deep-seated rush, or whiz, accompanying the systole of the heart. It usually continues long; often for life.

These two sounds, the superficial *to and fro* sound and the deep-seated bellows-sound, may sometimes be heard, by a careful listener, to exist together. Sometimes the bellows-sound begins to be distinguished when the rubbing sound ceases; appears to supervene upon it, or to take its place; perhaps it then first becomes audible, simply because it was previously drowned in the louder superficial sound. Sometimes there is no *to and fro* sound, but only the deep blowing noise; or (what in many cases is extremely probable, nay, what I may venture to say is certain) the *to and fro* sound has come and gone unnoticed—unlistened to.

Now of these sounds, which I repeat are perfectly distinct, and capable of being easily discriminated the one from the other, the first mentioned, viz. the *to and fro* sound, is always indicative of inflammation of the *external* membrane; the other, the bellows-sound, is always, as I believe, in these cases, indicative of inflammation of the *internal* membrane of the heart. You will bear in remembrance, that I am speaking of these sounds as they somewhat suddenly occur for the first time, and especially as they occur in *rheumatic* carditis at its *first* accession.

Those of you who have seen the thorax opened in an animal whose heart still continued to palpitate, may have observed, as I have done, that the pericardium lies closely in contact with the heart, but that a considerable extent of slipping motion between them goes on at every successive act of systole and diastole. They glide over each other evenly and without noise; but this is only while the surfaces are smooth and healthy. When they are already made rough by inflammation and the deposition of lymph, which lymph always, as I have shewn you, is rough in such cases, then the attrition will be no longer noiseless: it will give rise, in the alternate movements of the organ, to the harsh and superficial *to and fro* sound. But why does that sound, when once it has occurred, at length cease; and why, having once ceased, does it never by any accident, when the inflammation has been universal, recur? Clearly because the pericardium has become adherent to the heart: after which there can be no motion of the one membrane over the other, and therefore no sound indicative of such motion.

That this is the true explanation of the occurrence, and of the permanent cessation, of the *to and fro* sound, I am now, (March, 1837) convinced. It was a matter of inference

with me for some time. A few of the patients died during the primary attack. By much the majority recovered. I do not mean got perfectly well as they had been before; but they regained a great share of their usual health, perhaps *thought* themselves *well*, and left the hospital where they had been under treatment. Now of those that died, the pericardia were non-adherent. The opposite surfaces of the membrane were rough, and like tripe: and the *to and fro* sound never ceased in these persons. Such cases are always soon fatal. But, in the others, did adhesion take place? I make no doubt of it. Within the last twelve months I have had demonstrative proof of it in two instances. One of these occurred in a hospital patient, whose case has been published in the *MEDICAL GAZETTE**. He was a painter, 19 years old; and he became my patient last May, with acute rheumatism and carditis. From the 26th of May to the 13th of June, a *to and fro* sound was distinctly audible, as well as a bellows-sound which had preceded it. After that date, the bellows-sound continued, but the rubbing sound was no longer to be heard. The patient improved; and was about to be discharged from the hospital: when, on the 29th of June, sixteen days after the sound of friction had finally ceased, he suddenly dropped down dead in the garden of the hospital.

Here I had concluded that the pericardium was adherent; though I had not expected to have so soon the opportunity of verifying my opinion. And accordingly, except over a small portion of the posterior part of the right ventricle, the union was complete at all points. The agglutination was evidently the work of recent disease. The medium of adhesion was of considerable thickness; and consisted of coagulable lymph and coagulated half-organized blood. The pericardium was stripped off, as I have seen a poulterer skin a rabbit, and with about the same ease. This was a very interesting case to me, for it was the first in which I had had the privilege of examining the heart after having witnessed the peculiar succession of phenomena that I have been describing.

But since that time, I have met with another such a case in private practice. The particulars of it are sufficiently important to warrant my relating them†.

In the month of October, 1836, I was taken by Dr. Sweatman to see a patient of his; whom I found sitting up in bed, pale, with sharp features, breathing shortly and laboriously. His legs were anasarcous, and his belly was tense and fluctuating.

I learned that he had been for years given up to intemperance in drinking, and to indo-

* Vol. xviii. p. 791.

† *MED. GAZ.* vol. xxi. p. 544

lent and low habits. He told me, that the wind troubled him, shooting up through the whole of the left side of his chest. On farther inquiry I found he meant that he had much pain there. There was loud wheezing over the upper lobes of both lungs; and both sides of the thorax were dull on percussion at their lower part; and on the right side no breathing whatever was audible below. These latter symptoms were indicative of dropsical effusion into the pleuræ also. The jugular veins were swollen and tortuous on both sides of the neck. On applying my ear to the præcordial region I at once heard a very loud and distinct *to and fro* sound. This was equally manifest when he held his breath. Dr. Sweatman, who was not so much accustomed as I have been to listen to the sounds of the heart in disease, recognized instantly the peculiar character of this sound. I ventured to express my certain conviction, that the patient was labouring under recent and acute pericarditis. I added, also, that he had hydrothorax; and that, whatever chronic changes might have taken place in his heart previously to his present illness, dilatation of the right cavities constituted at least one of them.

He had been attacked by his present urgent symptoms three days before I saw him, viz. on the 8th of October. On that day, in all probability, the inflammation of the pericardium commenced.

This was his history. In the spring of the year, having, from indolence, kept the house for months before, he crossed from the Isle of Man to Liverpool, and was sick, and suffered a good deal during the passage. After landing he had a mile or more to walk. His companions outstripped him, but were called back to him, and found him very pale, breathing with difficulty, and unable for a time to proceed. He attributed all his subsequent complaints to that exertion; and he had been ailing, though not confined to his room, till the 8th of October. I did not venture in his condition, to open a vein: but leeches were applied to the præcordia, and he took diuretics.

I did not see him again till the 15th of October, four days after my first visit. The rubbing sound was still there, though less loud, less harsh, and less extensive. The leeches had given him much relief. His pulse was very small. A blister was now applied. On the 20th I saw him for the third and last time alive. The rubbing sound was quite gone. This Dr. Sweatman also satisfied himself of. There was a dull systolic bellows-sound in its place. The pulse was scarcely perceptible: but he continued apparently improving, making a vast quantity of urine, while the dropsical swellings fast diminished, till the 31st; when, after talking a short time oddly, and in a peculiarly loud

voice, he sat up to take some medicine; and having done so, he reclined his head against the nurse, and died. Mr. Shaw assisted us in the subsequent examination of the body. I omit giving an account of the condition of the lungs and pleuræ, which was what we had anticipated; and confine myself to the state of the heart. That organ was large. The pericardium was adherent universally by means of lymph, mottled with blood: and it was easily separated: so that the adhesion, as indeed the symptoms proved, must have been recent. The right cavities of the heart were very large; and the aorta was diseased.

The existence of the *to and fro* sound in these cases no one can doubt who has once listened for it: and the facts respecting it, which have been established beyond the reach of controversy are these:—1st, That when it occurs *de novo*, it always surely denotes acute inflammation of the pericardium. I say *de novo*, because (as I stated in the last lecture) a *bellows-sound* may accompany *each movement* of the heart, in consequence of *internal* disease of some standing; and this double, sawing, bellows-sound might possibly be confounded with the alternating noises produced by the attrition of the opposite surfaces of the inflamed pericardium. 2dly, The *to and fro*, or rubbing sound, is never of long duration, but it terminates in one of two ways. Either the patient dies in a short time, the sound continuing to the last; and then the pericardium is found coated with rough lymph, but throughout the far greater part of its extent, or altogether, *unadherent*: or the sound ceases, never to return, while the condition of the patient improves; or he even seems to himself and to others, to recover his perfect health. In these cases, the sound ceases from a physical impossibility of its continuance, viz., from adhesion of the pericardium over the whole, or the greater part, of the surface of the heart. And in this category of apparent but unreal recoveries, I cannot doubt that many of Bouillaud's cases of "*pericarditis terminating in health*" ought to be included.

And it follows as a necessary consequence from these facts that acute pericarditis, so far advanced as to occasion the pathognomonic rubbing sound, does not admit of a perfect cure: and that its best event is the adhesion of the membrane, and the obliteration of its cavity.

And even then, I say, the change is not final. Mere adhesion of the pericardium does so embarrass the movements of the heart as to produce at length, sometimes rapidly, sometimes slowly, hypertrophy, and other alterations which have already been considered. It is held, too, and I believe justly, though I am not so sure of this as of some of the other points I have been dwelling

upon, that the inflammation which begins in the membrane, sometimes dips into the muscular substance of the heart, weakens its elasticity and cohesion, and so leads ultimately to dilatation of its cavities.

I need not occupy much of your time in speaking of the other morbid sound that is audible in these cases, the bellows-sound : which sometimes may be heard before the to and fro sound commences ; which I have heard *through* the to and fro sound ; and which often remains after the superficial rubbing sound has ceased. This depends, no doubt, upon those alterations in the valves of the heart which take place, from inflammation, at the same time with the alterations of the pericardium. And when it is met with in such cases, it may be set down as very strong evidence of the existence of endocarditis.

I am anxious that you should take an interest in the disease which I have been speaking of at so much length this evening, and that you should keep it in mind in your future practice : for I am sure that it is a fertile, but often unsuspected, source of chronic disease of the muscular substance of the heart, and of its consequences ; asthma, dropsy, sudden death. The number of patients that come into the hospitals of London affected with acute rheumatism is annually very large : and I do not think that I am exaggerating when I say that nearly one-half of them have the heart or its membranes implicated. The cardiac affection may easily be overlooked both by the patient and the physician. The recovery may appear to be perfect. But after some time, palpitation begins to be occasionally felt ; and, by degrees, other symptoms, marking disease of the heart, declare themselves : but their origin is unsuspected or forgotten. You will be surprised, if you search back into the past history of all the patients who apply to you having disease of the heart, especially among the lower classes of society,—you will be surprised to find how many of them will tell you that they have, at some time or other of their lives, been laid up with rheumatic fever.

It is no part of my purpose to treat at present of that specific disease of the joints to which we give the name of acute rheumatism : but I may as well complete what I have to say of carditis as it occurs in connexion with that disease ; and then I shall not need to repeat myself when I come to rheumatism itself.

In the first place, then, I would say a word more respecting the delirium which is apt to supervene in such cases, and to mask the true disease, and to mislead the unwary practitioner. Patients labouring under rheumatic carditis very frequently become maniacal : and you would suppose that they

were labouring under inflammation of the brain, or of its membranes. And such cases are spoken of as cases of *metastasis* to the brain. It may sometimes be so, nay, I know that it sometimes *is* so ; but not often. Again and again, when death has occurred, and the delirium has been extreme, no traces of disease have been discoverable within the skull, while marks of violent and intense inflammation were visible in the pericardium. I presume that the acute cardiac affection interferes somehow with the regulated supply of blood to the head, which is necessary for the due performance of the cerebral functions. But whatever the explanation, recollect the fact ; and whenever, in acute rheumatism, you find your patient flighty and wandering, or more distinctly delirious, examine carefully the condition of his *heart*.

It is a curious circumstance that rheumatic carditis is sometimes the first step in the whole disease ; the cardiac symptoms will sometimes, I mean, precede those of the joints ; even by two or three days. Instances of this have fallen under my own observation.

And with respect to any law of connexion between the cardiac and the arthritic symptoms, I may state that the *younger* the patient is who suffers acute rheumatism (and I have seen it so early as the third or fourth year) the more likely is the articular affection to be complicated with disease of the heart. I never knew a child that had not reached the age of puberty, to be attacked with rheumatic inflammation of the joints, without suffering at the same time from rheumatic carditis. And after puberty, the disposition to the heart affection seems to become less and less, in proportion as life advances.

I have observed, also, that when a patient has come under my care who has had *repeated* attacks of acute rheumatism, in him I have generally found reason to believe that some organic affection of the heart was present. Probably the disposition to such repetitions of the disease, so remarkable in some individuals, may be kept up by the cardiac complication.

With respect to the period of the actual attack, and the circumstances under which the extension of the disease to the heart occurs, no fixed law has been observed. Sometimes the cardiac affection declares itself as the inflammation of the joints declines. Quite as often, however, they proceed together, and are aggravated or mitigated simultaneously. On this point my own experience nearly agrees with that of Dr. Latham, who says :—“ It (the cardiac affection) is incident to all the degrees and all the stages, and all the forms (?) of acute rheumatism. It is not more to be looked for when the disease is severe than when it

is mild; more at its beginning than during its progress and decline; more when it is shifting and inconstant in its seat, than when it is fixed and abiding."

There are some other symptoms that I must not omit to mention as occurring in some cases of pericarditis. In one of the fatal instances which fell under my own notice, there was a very strong purring tremor felt by the hand placed upon the region of the heart. This is not a constant, nor even a frequent, symptom; but it has a certain degree of corroborative value when it does occur.

When the fluid products of the inflammation predominate, when there is much serum poured out, the symptoms, as well as the danger, will be different from those which are remarked when there is not so much serous liquid. If the pericardium be distended, percussion will furnish a dull sound over an unusually large space; much beyond the natural limits of the præcordial region: and you may often measure the amount of the effusion, and its daily increase or decrease very accurately in this manner. But the general symptoms will vary also. The pulse will be feebler, and more disposed to falter, and to become irregular, in proportion as the liquid effusion is large; and at the same time the patient will frequently be fixed in one position, and unwilling or afraid to change it, lest that small exertion should further excite the action of the heart, and hurry the respiration. He will lie, perhaps, always upon one side; or he will remain immovable on his back, with his head elevated; or he will sit up continually, with his body leaning forwards; and he will not dare to alter his posture. But when the solid products of the inflammation predominate; when there is coagulable lymph, and but little serum; when the pericardium, instead of being distended, becomes attached to the heart; then the pulse will retain that force and regularity with which the disease commenced, the dull sound yielded to percussion will not transgress the præcordial limits, and the patient will not in general experience any absolute necessity of accommodating his body to one constrained position.

Of a merely adherent pericardium there are no diagnostic signs to which, so far as I know, we can trust; either auscultatory or general. None, I mean, presented by the body at the time. If we are accurately acquainted indeed with the history of the patient's disease, and if we know that, at any time, a to and fro sound existed, which to and fro sound soon ceased, and has never recurred; then our conclusion that the pericardium is adherent will scarcely be open to any source of fallacy.

When the opposite surfaces of the mem-

brane have been once united, they never separate again; the adhesion remains for life. But the lymph interposed between them, if the inflammation be not renewed, becomes less and less thick; until at length, in some cases, a mere layer of firm, but thin, cellular tissue is left, through which the heart is visible.

But when inflammation has stiffened the valves of the heart, or studded them with little wart-like masses of fibrin, how far do these morbid states admit of perfect recovery? It is not so easy to say. I am not aware of any facts which would forbid altogether the hope that here, as in iritis, the reabsorption or removal of the lymph may be total, and the restoration of the parts complete. On the contrary, the *comparative* infrequency of wart-like excrescences in the slowly fatal cases of rheumatic carditis leads to the opinion that such deposits may disappear as readily and entirely from the valves of the heart as from the iris.

Since I lectured upon this subject last year, two examples of rheumatic carditis have occurred among my hospital patients, differing in some remarkable points from any that I had ever seen. A brief description of them will complete my personal experience of this terrible disease.

The histories of the two cases are curiously similar. The patients were young women; their ages respectively 21 and 22. They were admitted during the same week; one a day after the other. Both were suffering under a first attack of acute rheumatism: both had also acute pleurisy, with effusion into the chest; and both died; one of them three weeks, the other a month, after her admission. In both cases there were symptoms referable to the heart; pain, and unnatural sounds: but in neither case was there any friction-sound; nor were any traces of pericarditis discovered after death. But the inflammation had fallen, partially, upon the aortic valves; whence it had extended (so I imagine) to the muscular substance. I shew you the morbid appearances represented in these drawings, made by Mr. Lonsdale at the time: and, better still, I shew you the parts themselves, which are preserved in our museum.

The whole of one of the aortic valves was, in each case, a mass of ragged ulceration; and the adjacent portions of the two other valves were, in a slighter degree, implicated in the mischief. What remained of the tattered valve was covered with rough irregular shreds of lymph, or vegetations. In one of the cases, the ulcerating process had penetrated through the valve, and into the muscular substance beyond, and had eaten a hole completely through the septum. A portion of lymph protruded just below the valves of the pulmonary artery through

the channel of communication thus formed between the left and right sides of the heart. In the other case, an abscess as large as a hazel-nut was found in the muscular substance of the septum, immediately opposite the disorganized valve.

Till I met with these cases, I was not aware that this destructive incrustation of the cardiac valves with wart-like excrescences was ever the result of *acute* inflammation. Chronic changes of that kind are not uncommon. Suppuration in the heart is very rare. In these two instances, the cardiac affection was complicated with acute pleurisy. I should have mentioned before, that the pleura very often participates in the inflammation when pericarditis occurs. You will not wonder at this if you consider the close vicinity, and the similarity in texture, of these two serous membranes.

I must defer what I have to say respecting the treatment of acute pericarditis and endocarditis, to the next lecture.

NOTES FROM CLINICAL LECTURES,

*Delivered during the present Session,
at Univers. Coll. Hospital,*

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Reported by J. D. HEATON, M.B., Lond.

Ten days' constipation.—Signs of pregnancy.—Enteritis.—Abortion.—Glanders.

THE case that I shall notice to-day has, I am sure, interested you all very much: and there are so many and important particulars in the history and daily reports, which have been very carefully and ably drawn up by my clinical clerks, Mr. C. J. Hare and Mr. Heaton, that I will read them throughout, with such comments as are suggested by the character and progress of the case throughout its varied course.

Elizabeth Widdows, æt. 17, admitted Dec. 7: of robust and healthy appearance. She has been living in service in China Mews; she is not married, but admits the possibility of her being pregnant; the catamenia have not occurred for the last three periods. Her previous health has been very good.

Her present illness commenced a fortnight ago, (which takes us back to the 23d of Nov.) with pain in the back of the head and neck; this continued for a week, during which she felt more thirsty and hotter than usual; the bowels were not constipated.

A week ago, she first felt a pain in the right side, which came on suddenly in the night, and has continued up to the present

time; this pain is increased by a deep inspiration: to this was added, in a few days, pain in the dorsal region. She has lost her appetite: the bowels have not been opened for the last week. Yesterday a blister was applied to the right side, but without any benefit.

On admission, there was slight heat of skin; no apparent prostration of strength. She complains especially of pain in the right hypochondrium, also in the lumbar region, and between the shoulders, increased by pressure.

(These had something the character of rheumatic pains, or lumbago; and you will recollect that such pains, especially in the back, are often severe at the commencement of small-pox.)

The tongue is thickly furred all over, except along the edges; the fur is of a whitish colour, and marked with furrows; bowels still constipated; pulse 90, of moderate strength.

The breasts have become larger during the last two or three weeks; around the nipple is a large areola of a dark colour. No enlargement can be felt above the pubes.

Physical signs.—There is dulness low down in the right back of chest on strong percussion, though on gentle percussion the proper sound of the lung is heard; the breath-sound there is superficial and sharp. The cause of this deep-seated dulness not superseding the superficial pulmonary breath-sound, or stroke-sound of slight percussion, was caused by the large size of the liver. The tympanitic sound of the stomach rose high on the left side of the chest, which seemed to shew that the diaphragm was high arched; but there was no doubt that the liver was larger than natural, as the dulness reached also below the margins of the right ribs.

Hitherto, the case presented merely the symptoms of constipation, with hepatic congestion and slight febrile disturbance; the tongue was more furred than usual in such cases; but we do meet, sometimes, with a very thick fur in these attacks, which are commonly called bilious, or by the French, "embarras gastrique."

We ordered eight leeches to be applied over the right hypochondrium.

Horâ somni sumat Hydrarg. Chlor.
gr. iij. Cras mane habeat. Haust. Sennæ.

Dec. 8th.—The pain is relieved by the leeches, and there is less tenderness on pressure. The abdomen is distended and tympanitic. Bowels have not yet been opened. Tongue cleaner, but still very dry. Pulse 88.

Hora somni sumat. Calomel. gr. vj.
℞ Olei Crotonis, ℥ij. Ext. Hyoscyami,
Pulv. Amyli, aa. gr. ij. Ft. pil. cras

mane sumenda, et omni bihorio repetenda donec soluta sit alvus.

9th.—At two o'clock her bowels had not yet been opened, though she must have taken not less than four or five doses of the croton-oil: she had nausea, and some vomiting, but no pain, and little tenderness; and the dulness in the right side was somewhat diminished.

As she was supposed to be pregnant, we examined the abdomen with a view to this. On pressing firmly with the stethoscope above the inguinal regions, we found more pulsation than natural, isochronous with the heart's action; and sometimes there was a murmur heard with it. Taken in conjunction with the suppression of the menses, the state of the breasts, and other circumstances before stated, I had little doubt that this was the beginning of the uterine murmur, which is not, however, in itself a certain sign of pregnancy. It begins to be heard commonly from the tenth to the fourteenth week. I have heard it at the end of the tenth. This is much earlier than the time of the other and more certain sign of pregnancy, the sound of the foetal heart, which is said to be rarely audible before the half-term, $4\frac{1}{2}$ months: but I may here state, that I have most distinctly heard the foetal heart as early as the end of the third calendar month, or, to speak more exactly, twenty-six weeks and two days before delivery. This is earlier than any one else is stated to have heard it; but I am confident of the fact, for the sound was most distinct and double, and amounted to 120 or 130 in the minute, whilst the maternal pulse was only 80.

To return to our case. It was obviously necessary to get an action of the bowels:—

Rep. Pilula ad 3tiam vicem. Vespere si opus sit injiciatur Enema ex Ol. Ricini et Ol. Terebinth. aa. ʒj.; Decoct. Avenæ, Oj.

10th.—The bowels were opened yesterday afternoon, and the enema was not administered. She had severe pain in the abdomen during the night, which continues up to the present time. At present the face is expressive of pain; the abdomen is generally tender on pressure; the tongue is dry, brown, and furrowed across the centre, furred on the sides; pulse 120, jerking and sharp; skin rather hot.

These were all the symptoms of the commencement of peritoneal enteritis, and left in my mind no doubt that inflammation had commenced. This is very common after continued constipation, which resists the action of purgatives. To subdue this inflammation it was necessary to bleed; but not very freely. The great object was still to empty the bowels, which had not yet

been fully effected. To relieve the pain and promote the removal of the inflammation, calomel and opium was ordered.

Mittatur sanguis ad ʒxij. Abdom. ad-mov. Hirudines x.

R. Hydrarg. Chlorid. gr. iv.; Opii, gr. ss. M. ft. pil. statim sumenda, et horâ somni repetenda. Vespere injiciatur enema heri prescriptum.

11th.—These means produced full evacuation of the bowels; the stools were dark and lumpy, the result of ten days' constipation. The blood drawn was slightly buffed and cupped. The abdomen was still very tender, especially on the right side. The pulse 130, sharp; the skin hotter than the day before; the tongue drier, and more fissured, but less furred.

It appeared that there was enough to warrant another bleeding; and in order to keep up a gentle action of the bowels, some blue pill with conium was prescribed, followed by castor oil; also a saline with hydrocyanic acid, to quiet the sickness and allay the fever.

Mittatur sanguis ad ʒxij.

R. Pil. Hydrarg., Ext. Conii, aa. gr. v.; fiant pil. omni nocte sumendæ. Omni mane sumat Ol. Ricini, ʒss.

R. Acid. Hydrocyanic. dil. ℥v.; Sodæ Sesquicarb., Sodæ Tart., aa. gr. x; Mist. Acaciæ, ʒj; Aquæ, ʒj. Ft. hauster die sumendus.

13th.—The blood drawn on the 11th is slightly buffed, but less so than the first. Last night she was attacked with extreme pain between the shoulders, and it extended on both sides to the epigastrium, where it remained very severe. The bowels have been several times opened since yesterday; there is great tenderness on the slightest pressure along the spine, but especially between the shoulders; there is superficial tenderness of the abdomen, less on firm pressure.

14th.—Pain in the back as before. There is a sensation of heaviness in the forehead; bowels pretty open; urine of a pale straw colour; sp. gr. 1009, slightly acid. The pain in the abdomen, as well as in the back, I looked on as a nervous pain, often occurring in females, especially after inflammation has been removed; it is distinguished by its superficial character, the absence of permanent heat of skin or hardness of pulse, and it is generally accompanied by excessive tenderness along the back, probably the result of congestion of the spinal cord. In this case, too, the pale colour and low specific gravity of the urine showed that the pain was not inflammatory. It is well to notice the pain and weight in the forehead, as it is the only symptom, as yet, except the state of the tongue, that we can connect with the formidable disease that afterwards appeared.

Six leeches were applied to the painful part of the back; and half a grain of extract of aconite added to the mixture.

15th.—Pain in the back relieved by the leeches: feels better this morning. She this day first complained of being troubled with phlegm in the throat, which she could not expectorate.

16th.—Now, for the first time, a new symptom appeared; the left eyelid is a little red and swollen. Up to this time, nothing had occurred that could not be accounted for on the supposition of the disease being constipation, followed by some inflammation, and afterwards by nervous irritation, all of which were removed by the treatment, except some nervous pain remaining. The only apparent exception to this is the appearance of the tongue. I have seen cases of obstinate constipation, with congestion of the liver, where the tongue was as brown and as much furred as in this case, but not so long dry.

Omitte pilulas Hydrarg. et Conii.

17th. — Early this morning, whilst at stool, a substance was passed, per vaginam, accompanied and followed by a considerable discharge of blood, and with pain in the lower part of the body. This substance resembled the membranes of a foetus at about the third month, though no foetus has been found in it; it appeared quite fresh; the blood was florid, and had no foetor. She seems very feeble, much exhausted, and at present (10 o'clock) the face is pale, except over the left eye, which is considerably swollen, very red, and exceedingly tender. A little redness is appearing on the left hand; the tongue white and furred; pulse 130, very feeble.

These were curious symptoms appearing. I had no doubt that a miscarriage had taken place; but the affection of the eyelid and wrists puzzled me. The inflammation of the eyelid appeared like erysipelas, especially the asthenic kind, which often begins in this way, in the loose cellular texture of the eyelid, closing up the eye. The inflammation of the wrists appeared more like rheumatism; but it had a more livid colour, and I remarked at the time that it seemed most like gouty rheumatism. No change was made, except the omission of the aconite.

18th.—The face is less inflamed on the left side, but the inflammation has appeared similarly round the right eye. Both hands are considerably swollen, and there are some round, slightly elevated, circumscribed spots of redness on the legs, having a similar appearance, and extremely tender. Hands and legs extremely tender, and rather oedematous in all parts. Bowels not moved for three days.

Omni nocte sumat Pil. Hydrarg. gr. v.; Pulv. Antim. gr. ij. Omni mane sumat Ol. Ricini, ʒij.; Adde Haust. Vin. Colchici, ℥xx.

Taking into consideration the appearance of diffused inflammations with the frequency of the pulse, state of the tongue, and great prostration, I could not help joining with the opinion expressed by Dr. Deleon, that this might be a case of malignant erysipelas; a form of disease which sometimes occurs epidemically, with great severity.

I could not but be anxious about the case, and visited her the following day (Sunday). I found her much worse. While sitting up in bed, she had suddenly sunk down, as though in a fit, but without losing consciousness, so that her speech was stammering and unintelligible; subsequently she regained distinctness of articulation, and again lost it, during the day, two or three times. She became exceedingly depressed during the day, so as to seem almost in a dying state. The tongue was brown and quite dry, and sordes began to appear on the teeth and lips. The inflammation around the eyes was more extended, very red, and presented no distinct line of circumscription; a few phlyzaceous pustules had formed on the forehead, above the nose. The hands were also more inflamed, considerably swollen, and very tender, but without the redness of the face. The bowels were still not moved; but the urine was moderately free, and not discharged unconsciously.

R Sp. Terebinth. ʒi.; Ol. Olivæ, ʒi.; Vitell. ovij.; Decoet. Avenæ, ʒxij. M. ft. enema statim injiciendum.

R Hydrarg. Chlorid. gr. ij.; Morph. Hydrochlor. gr. ¼. M. ft. pil. 4tis horis sumenda.

To be allowed two ounces of wine, and two pints of strong beef-tea.

It was clear from the case, now, that some poison was in the blood. The peculiarity of the inflammation and the typhoid symptoms left no doubt of this. The inflammation was of that diffused character which we have in asthenic erysipelas, with no circumscribing effusion of lymph. Hence a chief indication became, as in these cases, to support the system by nourishing and stimulating diet.

20th. — She seems considerably better. This morning, about 9 o'clock, a small foetus came away, quite fresh and perfect, without any membranes; it was a little more than two inches long, and seemed to correspond in size with the membranes passed previously.

The enema administered yesterday brought away a large quantity of very foetid evacuations. The urine is generally not passed unconsciously; it is slightly acid, has a strong smell, but without any distinct sediment.

The inflammation of the face has not extended; it seems rather tense, and more distinctly circumscribed, and is less red. Nu-

merous blebs have formed on the forehead, containing a sero-purulent fluid; some containing distinct pus. A few pustules were also formed on the neck and chest; some of a large size, with a slight redness around. Above the nose a patch of skin, of the size of half a crown, has a white appearance, and a tense doughy feel, as if there were fluid underneath. The inflammation in other parts appears as last reported: there is great tenderness of the whole surface. The patient says she is better; she appears less depressed; the voice is distinct, but rather husky. The pulse is firmer, still very frequent, 130: some heat of skin; tongue dry and brown; has vomited twice. She was ordered to have four ounces of wine per diem. An incision was made along the most tense part of the swelling in the forehead, on the general principle that the tension of crysipelatous inflammation should be relieved.

21st.—No pus was discharged from the incision, but a considerable quantity of serum mixed with blood. There appears little change in the symptoms since yesterday; the patient says she feels comfortable, and considers herself better. Pulse 144, tremulous, indistinct from frequency. A few fresh pustules have formed on the forehead. It was quite clear that, though the patient considered herself better, she was not so really. There was increasing debility, and it was more necessary to support the system.

Omitte Haust. Salinum.

R Ammon. Sesquicarb. gr. iij; Decoct. Cinchonæ, ʒi.; Sp. Æther. Nit. ʒss. M. ft. haust. ter die sum.

22d.—Appears much worse this morning. Many fresh vesications have formed on the forehead; the redness has extended farther, and the whole face is much swollen and bloated; one large blotch has formed on the left side of the forehead, size of a horse-bean, containing a dirty-coloured serum, tinged with blood. The urine and other discharges are generally passed involuntarily, but she is not unconscious, and is able to give collected answers, though she was delirious during the night, and now appears in a state of great prostration. The bowels are relaxed; a small quantity of urine has been saved, which has a dark, muddy appearance, and very offensive smell. The tongue is quite dry, protruded feebly and tremulously. She is still much troubled with phlegm in the throat, which she is unable to expectorate. There is excessive tenderness of the whole surface. A very offensive odour arises from the body of the patient, and from the bed impregnated with the discharges.

Fiat Haust. c. Acid. Nitric. Dil. ℥x.; Acid. Hydrochlor. ℥ij. vice Ammon. Sesquicarb.

R Cupri. Sulph. gr. ii.; Tr. Opii, ℥xx.; Decoct. Amyli, ʒiv. M. ft. enema stat. injiciend.

R Liq. Sodæ Chlorinat. ʒss.; Aquæ, ʒvi. M. ft. injectio pro vaginâ sæpè utenda.

A dilute chlorinated liquor was also to be sprinkled about the bed, and on the person of the patient, to correct the bad smell, and for the safety of those around.

23d.—Delirious again during the night; appears decidedly worse this morning. The inflammation on the face has extended; numerous blebs, containing a sero-purulent fluid, are formed on the face, and likewise on the chest and legs; also numerous pustules containing thick matter. One large bulla on the side of the face contains a dirty brown serum, and is surrounded by an irregular margin of livid redness. One phlyctena, of similar appearance, has formed on the left little toe, which is generally red. Pulse 158, more feeble than yesterday.

24th.—Much worse; the scalp has assumed a dark livid colour, extending to the forehead and nose, and numerous large phlyctenæ, vesicles, and pustules, some of considerable size, are formed on these parts. She is exceedingly depressed; the voice is feeble, husky, and indistinct. The evacuations are passed involuntarily, and are extremely fœtid. Pulse very weak, rapid, and indistinct.

25th.—She was delirious during the night, and screamed and raved, apparently in much agony. She died this morning about 10 o'clock.

There could be no doubt, from the character of the case, that the symptoms latterly were the result of some malignant poison in the system,—no doubt in the blood,—as in the case of the plague and similar diseases. The universality of the disease, the poisoning of the *whole* fluids, was shewn by the extent of the inflammation, and the pustules scattered about. With regard to the inflammations of the joints, although the chief inflammation was in the wrists, it was pretty clear, from the excessive tenderness all down the legs, that there was a low inflammation there also, resulting from the poison in the blood. There was no circumscription of the inflammation, just as there is none in the inflammation from bad dissection wounds, or those from the bite of the rattle-snake, and other highly venomous animals. As to the nature of the poison, we were as yet quite in the dark.

Sectio cadaveris, post-mortem horis lii.—The surface of the body was marked with scattered pustules, not surrounded by any redness (though there had been a narrow red areola during life), but some having a sort of areola of a colour paler than the rest of the skin, and with an irregular margin. Some of the larger ones being opened, a

considerable quantity of very thick opaque matter, of a dirty-white colour, was discharged. On the left small toe was a large vesicle (surrounded by much livid redness), which contained a dirty sero-purulent fluid. Below the knee were some flat swellings of a brownish hue; during life these were hard, and of a redder colour (being the spots described as resembling erythema nodosum); they now felt soft, and on opening one it was found to contain a thick purulent-like matter. Around the wrists, especially of the right hand, was the diffused redness of the inflammation described in the report, but having now assumed a dark purple colour. The face and head were horribly disfigured by the swelling and discoloration, interspersed with vesications and pustules, as already described.

On opening the body a very bad foetor arose from the interior. The blood was generally in a very liquid state.

Chest.—The appearance of the thoracic viscera, on removing the front walls of the chest, was quite healthy: each lung was divided into three lobes. A few shreds of lymph, of considerable firmness, were found on the surface of the base of each lung, apparently the result of inflammation; but there was no unnatural vascularity in the pleura. There were no old adhesions between the two layers of the pleura. Each lung was congested posteriorly, and rather more lacerable than usual. The bronchial lining was slightly congested.

Right lung.—On the posterior aspect a thin layer of soft bloody lymph was spread over the surface of the pleura in a patch, corresponding with the most congested part of the lung. Towards the apex were one or two small pale grey consolidations, quite limited, and seated deeply in the substance of the lung, sufficiently dense to sink in water when removed, but soft enough to break down between the fingers.

The left lung presented a similar appearance to the right, but was still more congested posteriorly. Towards the apex was a cluster of small consolidations similar to those in the right lung. In addition to these were one or two masses about the size of a pea, which felt firm, though readily broken down: these latter were more deeply coloured with blood: two similar masses were found towards the base of the same lung, and a small gritty concretion of a dark colour. These consolidations were much softer than those of common tubercle, and were most probably of recent formation.

The heart appeared quite healthy.

Abdomen.—The liver did not appear larger than usual, as a whole, though the right lobe seemed proportionately larger than ordinary, and was rather congested with blood. The convex surface was marked with streaks of a paler colour, corresponding with the

pressure of the ribs. The colour generally was healthy. The texture was so fragile as to tear in the removal. The gall-bladder contained olive-brown bile. There were no marks of inflammation in the intestines, showing that the inflammation which had existed was quite removed.

The uterus was rather larger than in the unimpregnated state, being about three inches long by two broad; the surface was very dark, and seemed congested. When opened it was found to contain dark brown, half liquid secretion, extremely foetid. The internal surface was rough and uneven, and of a dark greenish colour; a small irregular mass was adherent on one side towards the fundus, seeming like a portion of placenta. The Fallopian tubes both appeared highly vascular, especially the right tube, and each contained a small quantity of pus. The left ovary was pale and small; the right ovary larger, and presented a distinct cicatrix on the surface, and a corpus luteum internally. A few small cysts, containing a clear fluid were attached to the ovaries, apparently formed in the folds of the broad ligaments.

Weights of the viscera:—Heart, eight ounces and six drachms; liver, three pounds and seven ounces; right kidney, five ounces; left, five ounces and six drachms.

The head, the nasal passages, and the wrists, were not opened: objections being made by the friends. I had expressed an opinion before this examination, that we should probably find no considerable visceral lesion. The disease obviously infected the blood; and, as in the case of malignant small-pox, plague, scarlatina, &c. little change is found in internal organs. The nature of the disease was still a mystery.

During the life of this patient some suspicion had arisen, from the appearance of the pustules so extensively on the surface, that the disease might be glanders; but, owing to the absence of any discharge from the nose, and the want of any historical proof in the patient's statement, the resemblance to this disease had attracted less attention. During the post-mortem examination, however, the white areola around the pustules was noticed, as like that which is stated to be diagnostic of glanders. Although nothing had been elicited from the patient during her life, as to her having incurred the risk of such infection, it now appeared desirable to make further inquiry. It was accordingly ascertained that she had lived in a room above some stables, and that she was in the habit of feeding the horses. Some days before the girl was taken ill (that is, more than a fortnight before her admission), a horse was brought to the stable which was found to be diseased, and said to have the glanders. A donkey in the same stable is supposed to have caught the disease from

the horse, and became so ill with a discharge from the nose, that the owner was obliged to have it killed; though very unwilling to do this, as it was with foal at the time. The donkey was very ill at the time the patient was sent to the hospital, and was killed a few days afterwards. No human being except the girl was taken ill. The horse was sent away, and we have not heard what became of it. The owner of the stable denies that the horse was glandered, although he admits that his donkey in the same stable became diseased, and was killed in consequence. The above is the account obtained from the neighbours, especially from the father of a young man (living within three or four doors), with whom the girl had cohabited.

In the absence of any other obvious cause for this frightful disease, we are almost forced to conclude that this was indeed a case of *glanders*. The patient had been neither ill fed nor ill lodged, so as to countenance the supposition, that the disease was sporadic. Could it be connected with abortion? Erysipelas with a typhoid fever is well known to occur occasionally after delivery, and sometimes to lead to the formation of collections of pus in various parts; but here the appearance of the inflammation in the eyelid preceded the abortion, and the membranes and foetus were in a perfectly fresh state. It is true that the discharges from the uterus were offensive for some days before death, and the dark matter found in the uterus seemed putrid; but such a condition might be expected from the putrescent state of other discharges, alvine and urinary, and which were the consequence, not the cause of the disease.

Not having seen a case of glanders in the human subject, the resemblance of the present case to it did not occur to me until it was noticed by Dr. Taylor; and it is only after having ascertained further particulars of the history that we feel warranted in presuming this to be a case of that nature. The occurrence of this disease in the human subject, although suspected previously, was first distinctly noticed by Dr. Elliotson, one of whose cases you see here in the 18th vol. of the *Medico-Chirurgical Transactions*. In this place the swelling and redness of the eyelids, the phlyctenæ on the forehead, and the pustules scattered on the neck, resembled those of Widdows, but the discharge from the nose, and the gangrenous sloughing so well depicted here, were wanting. On consulting the treatise of Rayer on this subject (which is the most complete), in the 6th vol. of the *Mém. de l'Académie Médecine*, I find the records of several cases, without external nasal discharge, and without positive gangrene of the forehead. Rayer supposes that in one such case the posture of the patient caused the

puriform secretion of the nasal passages not flow backwards into the fauces, for the nares were found pustulated after death, as you see here depicted in Rayer's work: the phlegm in the throat, of which our patient complained, may somewhat countenance this supposition. It is much to be regretted that we did not examine the nasal fossæ: if these had presented the appearance of pustules and ulceration, the case would have been more clearly established. But the nasal affection does not appear to be an essential part of the disease. Rayer cites a case from Wolff, the subject of which, an ostler, exhibited the peculiar pustular eruption on the skin, and cellular inflammation ending in abscesses; yet the nasal passages were quite normal. In fact, as we see the same poison cause glanders and farcy in horses, so its effect may be various in the human subject.

There was no proof whatever in this case of the disease having been communicated through an abraded or wounded surface. The same may be said of ten out of fifteen cases of acute glanders collected by Rayer; and this renders it more probable that this disease, like small-pox, may be communicated by aerial infection as well as by positive contact.

On reviewing the history of the attack in this patient, it still remains with me a matter of doubt whether the constipation and hepatic congestion, and subsequent enteritis, were the effects of the poison in the system. In several cases on record there is mention of pain in the right hypochondrium among the early symptoms, afterwards followed by diarrhoea; but in none is there described so distinct an abdominal attack as that in our patient. The treatment of this attack seemed to be successful; and it was when this was in great measure subdued that the proper symptoms of glanders showed themselves. Of these the scattered pustular eruption, with typhoid fever, is the most characteristic. I cannot say with Mr. R. Adams, of Dublin, that a white areola distinguish these pustules during life-time, although it was very well marked after death.

I need say nothing further on the treatment: it was as unsuccessful as has been that of every other case of acute glanders in the human subject.

CASE OF
RHEUMATIC METASTASIS
TO THE BRAIN AND ITS MEMBRANES.

To the Editor of the Medical Gazette.
SIR.

IN looking over some notes and memoranda for the years 1830 and 31, I met with the heads of the case which I now send you, and which is at your service

should you consider it likely to prove either interesting or useful.—I am, sir,

Your obedient servant,

GEORGE FIFE, M.D.

Newcastle-upon-Tyne,
Jan. 15, 1842.

William Fuller, a tat. 36, had led a temperate, regular life; generally enjoyed good health; but very recently suffered from chronic bronchitis, which yielded to ordinary treatment.

On the 19th of December I was requested to visit him, in consequence of an attack of acute rheumatism. Being prevented doing so, my friend, Dr. Hatton, saw him for me; bled him, ordered some opening medicine, &c. until I should see him. On the 20th I visited him, and found him labouring under the most unequivocal symptoms of cerebral disease, whilst all appearance of rheumatic inflammation had left the joints originally affected. The face was rather pallid; skin very little, if at all, above the natural temperature; pupils neither contracted nor dilated; iris very slightly contractile; bowels constipated; tongue furred and white; pulse small, frequent, and occasionally intermittent; evacuation of bladder attended with difficulty. Ordered him a strong dose of calomel and jalap, which moved the bowels, though not sufficiently; in consequence of which he had an enema of senna and sulphate of magnesia, which acted freely. Cold to be assiduously applied to the shaven scalp; a blister to the nape of the neck.

21st.—Face rather flushed; pulse remains small and irregular; conjunctiva very much injected; mutters incoherently, but for the most part lies in a state of perfect coma. Fæces passed involuntarily and unconsciously; urine retained, in consequence of which the catheter was passed twice a day.

Sinapisms applied to the feet and inside of the thighs.

Subm. Hydrarg. gr. iij. every two hours.
Twelve leeches to the mastoid processes.

22d.—No effect produced by the calomel. In all other respects the same; no urine being voided, except when the catheter is employed; stools still passed involuntarily.

Ordered the turpentine enema every six hours.

Evening.—Action of heart irregular; sometimes very strong.

23d.—No change in general condition; a pustule formed on left cornea; strabismus of both eyes.

Continue remedia.

24th.—The same.

25th.—Died at noon this day.

Sectio cadaveris. — On sawing through the bone, the dura mater was wounded by the saw opposite to the frontal sinuses, by which accident about an ounce of serous fluid, and from one to two drachms of pus were discharged. The skull-cap was easily separated from the dura mater, which was highly vascular, and of a greenish blue colour over the middle lobes of the brain. On raising the dura mater, the arachnoid membrane was found thickened, and there was evident effusion of lymph between it and the pia mater, more especially in the depressions between the convolutions. The vascularity of the brain itself enormously increased; its substance hard and firm. The choroid plexuses engorged, and evident effusion of sero-sanguinolent fluid from them. The lateral ventricles distended with serum. In the base of the brain, immediately before the pons varolii, there was about an ounce of blood effused, the source of which was not ascertained. The cerebellum was very soft, but no other lesion was met with in it.

REMARKS.—Every man of experience is well aware, that of all diseases none are more liable to metastasis than are gout and rheumatism. It is, however, equally true that the term metastasis is often very unadvisedly, and consequently erroneously, employed. In proof of this, it may be enough to state, that, although in the course of these two diseases, the heart, or stomach, or head, may be in some degree affected, this does not, in my opinion, justify the term in question. And when I apply it in the present case, it seems necessary to remark, that, in the first instance, this poor man had for some days been suffering from acute articular rheumatism, before he had any medical assistance,—that when I saw him, all rheumatic appearances had left the joints, and the train of symptoms already described had taken place. This case, then, appears not only a good illustration of the sudden translation of disease from one site to another and remote one, but in my estimation a very

rare one, as, however common the translation of rheumatic inflammation may be to the heart and pericardium, I have not seen, nor can I call to mind, any recorded case where the brain and its envelopes were attacked in the above manner. Another argument in favour of this being really a genuine case of metastasis, is the fact of the membranes being so deeply involved in the disease. The ulceration of the cornea seems worthy of remark, as I have now witnessed it in three or four cases of cerebral inflammation.

ELECTRICITY IN TRAUMATIC TETANUS.

To the Editor of the Medical Gazette.

SIR,

THE great fatality attending cases of traumatic tetanus naturally induces a great degree of distrust in all the usually-adopted means for the relief of this truly formidable disease; and the fact that tetanus itself is a disease capable of spontaneous cure, tends unquestionably to shake our confidence in those medicines which may have been employed in successful cases; nevertheless, where any particular class of remedies has been used in one or more instances, and the event has exceeded our anticipations, we cannot avoid attaching some importance to their employment. From considerations of this nature, I am induced to mention to you, that, in two successful cases of traumatic tetanus, I have employed strichnine and electricity. I only mention the fact, without wishing to attach to it more importance than it deserves. I shall not trouble you with a history of these cases from day to day, but mention the leading features, and the condition under which these remedies were used. The first case was that of a little boy, seven years of age, who was admitted into the London Hospital in consequence of a severe laceration of the skin and muscles of the calf of the leg. Tetanic symptoms supervened about the fourteenth day after his admission. These were accompanied with most obstinate costiveness of the bowels, which was relieved by croton oil and the oil of turpentine, and clysters. The symptoms, which were at first not very violent, suddenly increased in intensity, and marked opisthotonos became appa-

rent. Large quantities of opium had been administered with no alleviation of the symptoms. With the sanction of Mr. Andrews, I directed the application of electricity in the following manner: the boy was placed on a stool with glass legs, and a stream of electricity from the common electrical machine with the circular plate was transmitted, by attaching the chain to some part of the body. Sparks were then taken from the spine. Immediately after the first employment of electricity the spasms were decidedly increased; but after a short time and a repetition of the means, a visible improvement took place, and the spastic curvature of the spine gradually became relaxed. The boy expressed himself perfectly relieved; indeed, he said he was well. The electricity was repeated frequently, as the symptoms again made their appearance, and always with alleviation of the spasms. But eventually it seemed to lose its effect, and on the third day after its application the opisthotonos returned, nearly as bad as ever. It was now discontinued, and the opiates were resumed, the ordinary effects of these being more evident since the employment of electricity. As no decidedly permanent improvement resulted, we now substituted the employment of strichnine, in the dose of 1-16th of a grain every two hours, with small doses of opium. A gradual amendment took place, which, however, we certainly could not positively attribute to the medicines; but in proportion to the subsidence of the spasms, the dose was gradually diminished, and eventually the child got perfectly well. In this instance, which was undoubtedly by no means a chronic case, the marked benefit of the electricity was at once apparent. The straightening of the spine, from its previous rigid curvature, afforded the best criterion of the temporary success of the remedy; and who can say, but that eventual good resulted from it? As to the rationale of the treatment, I have not much to say; the practice, which I have found since is not novel, suggested itself to me somewhat empirically, but I think it may be explained by the disturbance of the unnatural condition of nervous influence, which is so marked in this disease, possibly by exhausting the *vis nervea* of the muscles of the parts especially affected. But admit-

ting this to be purely hypothetical, I imagine no doubt can exist as to the propriety of employing the same means in cases of equal urgency. I am not anxious to attribute either to the electricity or the strychnine a greater share than is due in the cure of this case, as all the ordinary means were put in requisition, and, possibly, under these a cure might have been obtained; but from what I have seen, I should have no hesitation in again employing them in similar cases, and would endeavour to abstain from such enormous doses of opium as are generally given in traumatic tetanus, and often with no beneficial result.

The second case, in which a cure has been obtained, has recently occurred to me. A man, about 45 years of age, was admitted into the London Hospital with tetanus supervening on a punctured wound of the great toe. The toe was well; but the symptoms, although the case was chronic, were severe. Opium was first employed in large doses, but no good resulted; and, as the symptoms were undoubtedly on the increase, strychnine was employed, in doses of the twelfth of a grain every two hours. After he had taken a few doses, the genuine effects of the medicine were apparent; and it increased the spasms of his legs so much, that, to use his own expression, he thought his legs would be torn from him. On the following morning his condition was decidedly improved, but he refused to go on with the medicine. We resumed the opium, but the symptoms again increased in severity. He was now electrified in the same manner as the subject of the last case, and expressed himself, after the electricity, much relieved: indeed, he now walked back to his bed, having before been unable to stand, from the rigid spasm of his legs. The electricity was now occasionally employed, without any regularity, but as any increase in his symptoms appeared to demand it, and he was always relieved by its application. The man is now convalescent, being able to walk about the ward, and complains only of a general rigidity in various parts of the body. It is about a month since the commencement of the disease. I have asked this man since, what afforded him, in his own opinion, the most relief? He says, he always felt better after the use of the electricity, and

attributes his cure to its employment. It ought to be mentioned, that, in this case, a blister had been applied along the spine, and the blistered surface dressed with a strong morphia ointment.

I cannot lay down any rule as to the duration of the period of the employment of the electricity; but, from what little I have seen, I should be inclined to repeat it at intervals of three or four hours, according to the urgency of the symptoms, and continue its use for five or ten minutes at a time. I must not omit to add, that I have once seen *electro-galvanism* employed in an acute case of traumatic tetanus without any permanent benefit, although some trifling advantages seemed at first to arise from it.—I am, sir,

Your obedient servant,

JOHN ADAMS.

31, New Broad Street, Jan. 1842.

ON PARACENTESIS OF THE THORAX*.

BY JOHN SNOW, M.R.C.S.

(For the *London Medical Gazette*.)

IN the normal condition there is no vacant space within the thorax. The pleura on each side of the chest is an empty bag, merely lubricated on its inner surface with serum; and the pulmonary and costal portions glide gently over each other during respiration. Whenever any fluid, whether a liquid or a gas, accumulates within the pleura, it is desirable that we should get rid of it. Tapping the thorax, however, is the means adopted only in those cases in which the fluid is known or presumed to be pus, or where there is serum or air in one pleural sac in such quantity that one lung is rendered useless, and the mediastinum is pushed aside, and the function of the opposite lung so interrupted, that life is endangered. Under other circumstances than these, the ordinary modes of performing paracentesis of the chest, whether by the trocar or the bistoury, would not diminish the existing evils.

The tissue of the lungs possesses an elasticity which would enable these organs to expel the greater part of the

* Read at the Westminster Medical Society on December 18, 1841.

air they contain, provided the atmospheric pressure were exactly equal on their internal and external surfaces; but so long as the thorax remains intact, the atmosphere can only press on the exterior of the lungs through the walls and floor of the chest, and the muscles of respiration being more powerful than the elasticity of the lungs, the atmospheric pressure on the interior of the latter compels them to be obedient to every motion of the chest. But so soon as an artificial opening is made into the pleura, the atmospheric pressure is at once equal on the inner and outer surfaces of the lung on that side; it collapses in accordance with its own elasticity, and remains unaffected by the motions of the ribs and diaphragm; and whether the air press immediately on the surface of the lung, or through the medium of a liquid effusion, the effect will be the same. It follows from this, that at the conclusion of paracentesis, performed in the ordinary way, the lung must be collapsed, and the space between it and the ribs occupied by air, provided all the liquid has been removed. And, in fact, with the stethoscope applied to the chest during the operation, the air can be heard passing in by bubbles as the liquid flows out.

The introduction of air into the pleura will most likely be injurious whenever that membrane is in a state of inflammation; but the greatest evils arising from the admission of air, are occasioned by its mechanical resistance to the expansion of the lung, which can only be brought into perfect use in proportion as the air contained in its pleura is absorbed; and the complete absorption of it must occupy several days. During this time, not only does the patient suffer from limited respiration, but time is allowed for the lung to become bound down by the consolidation of the coagulable lymph, which may be effused, and thus permanently detained within its shrivelled dimensions. The removal of serum whilst in moderate quantity, and recently effused from pleurisy, would prevent the diminished lung and contracted chest which often follows that complaint, provided the serum could be removed without being replaced by air, otherwise the operation would obviously not be of much avail. When from pneumothorax or effusion of serum, the lung is pressed

close to the spine, the mediastinum pushed to one side, and the ribs and intercostal spaces distended, the common operation of paracentesis gives great relief, because it allows the thorax to return to a state of equilibrium, and relieves the other lung; the patient being brought to the condition a healthy person would be in after having an opening made into the pleura and then closed again, the air being allowed to remain. But even in these cases, or where purulent matter is effused, it would be a great advantage to leave the patient with the pleura empty, and the lung expanded and filling the chest.

To make an opening into each pleura, and allow both lungs to collapse, would be to cause instant death by asphyxia; accordingly, the two sides of the chest cannot be tapped by the ordinary method on the same day. And when dyspnoea exists from liquid in both pleuræ, the patient cannot dispense with one of his embarrassed lungs; he evidently could not live with half the respiration he has got; accordingly paracentesis is not performed in hydrothorax, a disease which nearly always occupies both sides of the chest. Idiopathic hydrothorax is believed to be very rare, if it exist at all. If there be such a complaint, it will probably, like hydrocele, be generally single, and occupy but one side. Hydrothorax, however, arising from some other affection, such as obstructed circulation through the lungs or heart, or disease of the kidneys, is a frequent complaint, and one which, if not relieved by medicine, soon proves fatal. It is sometimes but a symptom of the approaching dissolution which would take place independently of the dropsical effusion; but at other times it cuts off the patient much sooner than would the original affection of the heart or other organ. The dropsy arising from granular degeneration of the kidneys may occur in any stage of that disease; it generally involves nearly all parts of the body, but it may predominate in one situation, as in the cellular tissue, in the abdomen, or the thorax; and when in the latter situation may soon be fatal; and this may occur either in an advanced stage of the disease, or when there is merely a state of inflammation or congestion of the kidneys, which might lead to granular disease if not removed by

remedies. In a case of renal dropsy followed by scarlet fever, which occurred to me two years ago, the child was cut off by hydrothorax, although it was not worse in other respects than some who recovered.

Now, provided the serum can be removed without making a communication between the external air and the pleura, I do not see why tapping may not be performed on the thorax with the same safety and success as on the abdomen. I find from a recent number of the "London and Edinburgh Monthly Journal," that Dr. Davidson, of Glasgow, has been applying cupping-glasses over the canula introduced for empyema, in order to withdraw the fluid and prevent the ingress of air. This is certainly an improvement, but it still leaves the operation far from a state of perfection; for, not to mention other objections, it is obvious that on the removal of the cupping-glass, air must rush into the chest before the canula can be withdrawn, or other means taken to stop the opening; and many cubic inches of air will rush through a very small orifice in half a second. Accordingly, in a case Dr. Davidson relates, the splashing of fluid was heard on performing the Hyppocratic test of succussion, three days after the operation, and we know this splashing can only take place when there is both air and liquid in the thorax.

The chief object of this paper is to lay before the Society the drawing of an instrument, which any member can get made by his own instrument maker.* By its means any fluid can be withdrawn from the chest, without making a direct communication between that cavity and the external air. It consists of trocar and canula with a stop-cock in it, the trocar to pass through the open valve of the stop-cock. A portion of the trocar must be made perfectly cylindrical, and to fit accurately the whole length of the canula. In withdrawing the trocar from the canula after their joint introduction, it must be brought so far as to be clear of the stop-cock, which point is indicated by a mark on the trocar, and then the stop-cock must be turned before the complete removal of the trocar. The portion of elastic tube must now be

screwed to the canula; and to this tube must be screwed a double action syringe, with two distinct valves, like a stomach-pump. The valve of the stop-cock can now be reopened, and by working the pump, the contents of the pleura, whether gaseous or liquid, will be withdrawn. It is evident that not a particle of air can enter the pleura, and that the integrity of the chest as a pneumatic apparatus is not impaired during the operation. Before introducing the trocar, the skin must be drawn a little from its situation, and then by withdrawing the canula slowly at the end of the operation, the correspondence between the superficial and deeper wounds will be lost before air can enter the pleura.

If the lung be already firmly bound down before resorting to the operation, in a case of effusion, it will not be practicable to draw off the whole of the liquid. In such a case the resistance to using the pump, and the sense of uneasiness in the patient, will indicate when to stop, as in using the enema pump; and if the liquid be serum, it will be preferable to leave a little in the thorax; if, however, it be pus, the pump can be removed, and air admitted to allow of its complete removal.

This instrument must possess great advantages in the cases in which paracentesis is at present performed, and it will extend the occasions on which the operation may be resorted to with safety and advantage.

54 Frith Street, Soho Square.

[A drawing of the instrument was forwarded to us with the paper, but the description is so distinct, that we have not thought it necessary to have an engraving made.—ED. GAZ.]

PATHOLOGY OF THE KIDNEY.

To the Editor of the Medical Gazette.

SIR,

IN consequence of having this morning received a memoir, which has been kindly dedicated to me by my very intelligent young friend and pupil Mr. George Robinson, in which the pathology of the kidney in connection with the secretion of albuminous urine has been very diligently investigated, I have thought it almost incumbent upon me

* It has since been manufactured, under my directions, with great accuracy, by Mr. Read, of Regent Circus.

to beg of you to insert in your columns the following brief statement of what Mr. J. Toynbee has been doing during the last two years, in co-operation with myself, upon this interesting subject: and this I do with the greater pleasure because some of the results of our labours in a great degree confirm, by actual observation, the views advanced by Mr. Robinson; and our work would have been laid before the public several months ago, but from our desire of rendering the whole research complete, and latterly, from the delay occasioned by engravings, of which many are still in the artist's hands.

In the latter part of the year 1839, we first entered upon our investigation; and by microscopic observations made from more than a thousand specimens, obtained from the minutely injected kidneys of nearly a hundred individuals, chiefly labouring under this disease, we have been enabled to trace out the gradual change which the structure of the kidney undergoes during the successive stages of the complaint, and by the aid of engravings, the proof impressions of which are now before me, we shall be able to shew that one of the most interesting features in the morbid anatomy of this disease is to be found in the condition of the corpora Malpighiana. Of these we possess specimens and drawings, the greater part made above a year and a half ago, illustrative of the various changes they suffer from the commencement of the disease till the kidney arrives at its most confirmed state of disorganization; and as the specimens are all carefully preserved, should the engravings in any way fall short, the facts may be hereafter verified by any one desirous of ocular demonstration.

I need scarcely say, that the observations of Mr. George Robinson have been made altogether independently of the researches of Mr. Toynbee and myself; our conclusions having been obtained from injections and minute anatomical observations in cases with whose histories we have been acquainted; and although it has been well known at Guy's that I have been engaged in this research, I have not thought it right, co-operating as I have always been with Mr. Toynbee, to make any public allusion to our results, till we could bring them forward in a

form which should remove all doubt as to their accuracy.

In conclusion I may add, that our work on the Anatomy and Physiology of the Kidney, and the Pathology of that organ as connected with the secretion of Albuminous Urine, will very shortly be submitted to the world.

I remain, sir,
Your obedient servant,
RICHARD BRIGHT, M.D.

11, Saville Row, Jan. 1842.

ON BALDNESS.

To the Editor of the Medical Gazette.

SIR,

AMONG the epidemics of the present day, which are occasionally alluded to by writers, there is one which has escaped mention. Though this malady (for such it must be called), is trifling compared with many others, still it may, in many instances, be productive of serious consequences, rendering the affected individuals more liable to colds, fevers, &c. The great prevalence of baldness may be observed by any person who takes the trouble of looking from an eminence on a crowd of persons, in those places where it is necessary to take off the hats. A vast majority of the individuals, whose scalps are denuded, seem scarcely more than thirty years of age. When we look at persons of fifty years of age and upwards, and contrast them with younger men, we find the latter more frequently affected by loss, and extensive loss, of hair. From this it would seem that the malady has only become prevalent of late years. How, then, are we to account for the fact? Some assert that the lately gradually increasing variability of the climate may conduce to the affection; others the custom of wearing hats, lawyers' wigs, &c., and thus preventing the access of the air; while a third set declare the prevalent baldness to be attributable to the modern custom adopted by gentlemen of wearing long hair. Concerning the two first explanations I shall say nothing; but, regarding the third, the fact that women, who seldom have their hair submitted to the scissors, rarely suffer loss of hair, would contradict it. The physiology of the hair is not well understood, and furnishes ample materials

for additional inquiries, especially as regards the secretion of colouring matter; and I should think the physician who acquired a more accurate knowledge of it, and was thus enabled to comprehend its diseases, and apply remedial measures accordingly, would be amply repaid ultimately for his labour. The reason why females are so seldom afflicted with baldness has never been explained. Dr. Copland, in his *Practical Dictionary*, article "Hair, loss of," merely states the fact without attempting to account for it. My object in making these observations is that of directing more competent writers to the subject in question, which I consider of decided importance.

I remain, sir, yours,
F.R.C.S.I.

Dublin, Dec. 17, 1841.

MEDICAL GAZETTE.

Friday, January 28, 1842.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

FRESH PLANS OF MEDICAL REFORM.

THE last proposition of Mr. Carmichael on which we commented in our number of Jan. 14, was that of fixing the fees of general practitioners by Act of Parliament. The sum which he suggests, of five shillings, and one or two shillings additional per mile, in distant cases, was too much, we observed, for those of slender means. On the other hand, when the patient is opulent, and the practitioner of high standing, more might reasonably be expected; so that, on the whole, it would be better for the Legislature to keep its rough hands from these delicate difficulties, and leave fees to be settled, as political economists would say, by the haggling of the market. The failure which has uniformly attended on attempts to fix prices by law, does not encourage farther experiments

in the same field. Indeed, one might almost imagine that hackney-coach and watermen's fares had been left as specimens of mediæval legislation, and beacons against additional errors of a similar kind.

Instead of the present large number of medical examining boards, Mr. Carmichael would have three only, namely, one in each of our capitals. These three Councils would be elected by the Colleges of Physicians and Surgeons of England, Scotland, and Ireland. General practitioners might vote, but not be elected on the Council. Each Council would elect three members to form a Senate; and the nine medical senators, with certain lay assessors appointed by ministers, would enact laws for the government of the profession, and advise the Legislature on all subjects of hygiene. No more expeditions to Walcheren, nor settlements at Sierra Leone; no undrained alleys, nor vexatious quarantine laws, with a perfect Medical Senate to advise, warn, or perhaps, command:—

*Te duce, siqua manent sceleris vestigia nostri,
Irrita perpetuo solvent formidine terras.*

Without, however, being quite so sanguine as Mr. Carmichael, we freely confess, that a Board of Health composed of distinguished practitioners of our art, with the addition of some laymen, might often be usefully consulted by the Legislature or the Ministry; but we are not at all elated with the prospect of the profession being governed by this select Council, or Medical Senate. The universal discontent excited by the peremptory mandates of the Poor-Law Commissioners might be called forth, in a proportionate degree, by the fine-spun regulations of a Medical Senate. This would especially be the case, if the Senate attempted to mark out with great nicety the bounds of legitimate practice, and teach the public by force

what practitioners they ought to consult.

We must observe, that this scheme of three Councils and a Senate reminds us too strongly of the strange bills of Messrs. Hawes and Warburton, to allow us to doubt of its rejection. Mr. Carmichael attributes the loss of the bills to their being neither party measures, nor introduced by the Government: Dr. Kidd* thinks that the Legislature was deterred by the want of unity in the plans proposed. For our parts, we should rather ascribe their failure to the exquisite tact of the House of Commons in discerning a still-born Bill. Göethe, in his account of his own life, finds fault with the style of reviewing, which consists in the elaborate detection of absurdity, and shewing, as he says, that the silly is silly. Now, the House of Commons rarely falls into the error which he censures, by dissecting, with painful diligence, the details of an inanity. It discerns an impracticable Bill at a considerable distance, and gets rid of it in the lump, without minute inquiries into its morbid anatomy. What with moving the previous question, counting out the house, prodigious paroxysms of coughing, and the most profound inattention, certain *projets de loi* are smothered, without the formality of deliberation, but with a genuine appreciation of their merits.

Hence, although we agree with Dr. Kidd in not being surprised "at the more than indifference with which the late Parliament abstained from entering on the consideration of the subject," the grounds of our agreement are different. What he sets down to want of unity among medical reformers, we should attribute to want of common sense in the bills. We may remark,

too, that whatever discrepance of opinion may have obtained on other points, every one was unanimous in condemning the projects of Messrs. Hawes and Warburton.

Dr. Kidd says that medical reform is now openly advocated by all men, even by those who were lately most adverse to it; yet in the next page he blames certain opponents of medical reform, who frequently make use of the terms, "the one-faculty system," "the one-faculty men," &c. Dr. Kidd disapproves of these phrases, partly on account of their contemptuous tone, and partly because he believes there are but few persons to whom they can be applied with justice. He thinks that, "with a very few exceptions, all the advocates of the measure in question not only do not desire to amalgamate, much less to annihilate, the different orders of the profession, but strenuously wish to support those orders; and, more than that, they wish also to support all the existing institutions in any way connected with medicine, as sources of the legitimate honours of the medical profession."

If this is really so, and amalgamationists are as rare as Dr. Kidd hopes, the phrases to which he objects, and which seem sufficiently mild at the worst, will become perfectly innocuous; for an epithet, even if originally sharp, is turned into a *telum imbellè sine ictu* when no one is left to whom it can apply. Yet, with all deference to Dr. Kidd's interpretation of the discussions going on before us, we are still inclined to think that the scheme of one faculty, which is almost as near an approach to amalgamation as the law can give us, has been, and is, a very favourite one with some. From the days of the deputation which astonished Dr. Lushington, to the present hour, "One Faculty" has been the rallying cry of the more impassioned medical reformers; nor do

* Further Observations on Medical Reform. By J. Kidd, M.D., Regius Professor of Medicine in the University of Oxford. London and Oxford. 1842.

we see any difficulty in detecting it in the more sober pages of Dr. Kidd. He proposes, first, that all the members of our existing medical institutions shall be incorporated under the name of "*The British Faculty of Medicine*;" each individual having the title of "*Member*" of that faculty.

Secondly, those practitioners who do not belong to any of the existing institutions are to be incorporated on payment of a certain sum, provided they have been in practice for five years in any one place.

Thirdly, those practitioners who have not fulfilled this condition, are to be admitted on examination.

This certainly looks very much like the oft-mooted scheme of one faculty. Moreover, "although it is neither necessary nor desirable to attempt to alter the long-established division of the medical profession into physicians, surgeons, and general practitioners," all candidates are to be licensed to practise in every branch of the profession.

The only difference between Dr. Kidd's proposals and the most entire amalgamation, appears to be that Dr. Kidd would still allow the medical colleges to exist: he observes that the diplomas annually given by the College of Surgeons have nearly doubled since the passing of the Apothecaries' Act, and thinks that the College of Physicians, &c. might still attract candidates. The parallel is not quite accurate; for while the Worshipful Society never stamped their candidates with the title of surgeon, "*The British Faculty of Medicine*," or the boards connected with it, would license *their* candidates to practise every branch of the art. We confess that we do not see our way clearly through the whole theoretic maze of this department of medical reform. Is it intended, for instance, that those who are already members of some medical corporation,

and who thus become members of the new faculty, shall be eligible to those places which are now respectively limited to physicians and surgeons? If this question is answered in the affirmative, a perfect amalgamation, or one-faculty scheme, is intended; if in the negative, we suspect that considerable disappointment will be felt by those who have gained nought but the title of "*Member*" by the institution of the new Faculty. We do not think, however, that any man in whom the House of Commons places confidence is likely to promote so undesirable a fusion.

It has been asked, says Dr. Kidd, why the profession is not "content with the actual state of things, especially since it is evident that to that state they would revert, were they for a time new modelled?" He answers, by asking in turn, why persons of the highest rank prefer a blue ribbon to a red or a green one? To render the comparison more exact, however, some one ought to have proposed to give a blue ribbon to every member of both houses: but let that pass.

Dr. Kidd observes, in addition, that the medical is the only one of the liberal professions in this country from which the higher honours have been systematically withheld; while in France and other countries it obtains titles of nobility. To clear up this difficulty in all its bearings would demand a most profound knowledge of the frame of society at home and abroad. Meantime, we may remark that a title on the continent is no more equal to a peerage of the same denomination here, than a livre is equal to a pound, though they both meant the same thing originally. Immediately after making the last remark, Dr. Kidd adds, strangely enough:—

"Do I state this as indirectly advancing a claim to such honours, on the

part of the medical profession of this country? Assuredly not. However such honours might be esteemed, I am persuaded that that calm exercise of common sense which so particularly distinguishes our national character, would prevent the conception of any such ambitious claims, in the minds even of those who are most ambitious of change."

Pazienza, quoth the Italian. If we cannot get a peerage, just at present, let us be content with placing two or three steadfast friends and members of the profession in the lower house. Is there no doctor with a clear head, a good heart, and a tolerable estate, who would be willing to fill such a post?

We thank Mr. Carmichael and Dr. Kidd for again coming forward with their opinions; for though we do not imagine that the major part of their propositions can be carried into effect, yet truth must ever gain by discussion.

CLINICAL LECTURES,

BY JOHN CLENDINNING,

M.D., F.R.S., F.R.C.P., Senior Physician to the St. Marylebone Infirmary.

LECTURE VI. Jan. 17, 1842.

Pleuro-pneumonia.

CASE I.—John Carroll, labourer, married, 31 years of age, four or five days ill, admitted Dec. 16th, with cough, dyspnœa, fever, and other symptoms of pectoral inflammation. He gave the following history of himself:—He had been from 15 to 20 years at sea, having entered the British Navy (he stated) at six or seven years of age, and for the last 18 years nearly he had been a labourer in London. His habits of life have been of course rather free. Until within a few months has had excellent health. From three to four months since fell from a scaffold, from a height of four stories, and landed on his right side, since which he has had pain of that side. Some weeks after fell again, but landed on his head, and suffered apparently no ill effects. On the Sunday before admission took ill in the forenoon with shivering, which seized him on his way to Oxford-street, and was soon followed by pain of the whole right side, and later in the day by headache. He

says that during the preceding week he had been much exposed, and had got a complete wetting on the Saturday, to which he ascribes his illness. He lost no time in applying for assistance as an out-patient, and was attended as such until Wednesday, when he was admitted an in-patient, with a copious rusty expectoration which had come on that day, and made him ask for admission.

Immediately on his admission, Dr. Boyd had 16 ounces of blood extracted by the lancet, and ordered antimonial mixture every other hour, and fever diet*.

17th.—On as minute an examination as his dyspnœa and the cold would justify me in making, I found his condition to be the following:—

His expression indicated pectoral distress, although there was no livor such as occurs in the dyspnœa of emphysema pulmonum: for example, his breathings were short, rapid, and not under 40 in the minute; his decubitus was supine, and he could neither continue sitting up, nor remain on either side, without much distress; he coughed very frequently, and expectorated copiously mucous and sanguinolent sputa, and the cough caused acute pain of the right side. He had no headache; his tongue was yellow; pulse 96, bounding, full, compressible. Such were the functional, or (as Corvisart, I think, has named them) the rational signs in this case; and without farther examination, the diagnosis was, for practical purposes, quite clear, viz. pneumonia and bronchitis of one or both lungs, with most probably pleurisy of the right side. And a physical examination gave like results. On the anterior surface nothing important was observed, except the crepitus of bronchitis; the subclavian regions were well developed, and expanded equally in inspiration, and were resonant on percussion. There was no defect of penetration in breathing on either side. The whole force of the disease seems to have fallen on the lower lobes, and especially on the right. The whole right posterior inferior surface of the chest was dull on percussion. The subjacent lobe had no vesicular penetration or breathing scarcely; but instead of that a rather loud shrill tubular sound attended the inspiration. There was very little motion of the ribs in that region, in breathing. Owing to a slight curvature of the spine, occasioned very probably by his fall from the scaffold, and unknown to himself, there was much difficulty in ascertaining whether there was any increase in the size of the right side,

* Cases of every class of disease are admitted at this infirmary indifferently every day in the week, and at all hours of the day and night, and consequently, in most instances, during the absence of the physician and surgeon of the week.

and indeed none was detected by a tolerably careful measurement. There appeared to be no displacement of the liver, which was seated wholly under the ribs, so far as I could ascertain. On the whole, it appears that the physical signs fully confirmed the results obtained by the old Hippocratic method, and from both together the following diagnosis was drawn:—

Pleuro-pneumonia of the right side, with probably some effusion, and without tuberculation or heart disease, in all probability. For such a disease in such a subject, the plan commenced by the resident physician was obviously well adapted. I accordingly ordered leeches to the side, and increased the antimony.

St. Mistur. Antimonialis (Antimon. gr. i.)

3iss. 2da q.q. horâ.

Admovcantur Hirudines, xii. lat. dolent.

17th, 8 P.M.—I saw this man again the same evening, and found him relieved, having less dyspnœa, and no sickness or nausea.

18th.—Says he is better; had a good night; breathing still short and quick; cough and expectoration less troublesome; pulse 100, good volume and power; tongue clean; bowels open. Ordered—

Admoveantur Hirudines xii. lat. dext.

Cont. Haust. Antimonii.

19th.—Had a good night; dyspnœa considerably abated; cough much less troublesome; sputa much more frothy and mucous, and less sanguinolent; feels himself much easier; no pain; right side seems now tolerably resonant, with some penetration and vesicular crepitus more or less throughout; no tubular sound observed on cursory examination; tongue moist, coated in middle; pulse much softer, and less voluminous.

20th.—No pain any where, he says; good night; the rusty colour of sputum gone; pulse 112, bounding, compressible. The character of the pulse this morning rather alarmed me; but I thought it might be owing to some transitory irritation, and determined to persevere in the use of the antimonial mixture above named, with low diet. I should have mentioned that a blister of Butler's *charta vesicatoria* had been applied between the shoulders, on the 18th, with good effect.

Arrow-root, beef-tea, and extra milk, were this day ordered, from a suspicion that the pulse indicated approaching vascular exhaustion, and consequent general irritation and debility.

Admoveatur epispasticum chart. vesicat. lat. dext.

21st.—Comfortable night; seems stronger; pulse 110, soft, not so bounding; no pain; less tenderness of the side in breathing, and

on percussion, &c.; little cough; a slight reddish tinge still of sputum.

22d.—Pulse fallen to 80, full and soft; breathing and expectoration much improved; respirations about twenty-three per minute.

23d.—The dulness of the side still very well marked low down.

Ordered Ungt. Sabinæ lateri cuti vesicatorio denudatæ.

24th.—Doing well in all respects; complains of hunger.—To have one egg.

25th.—No complaint to-day, except of blistered side; no dyspnœa; pulse tranquil.

26th.—Says he is better altogether—"quite charming;" slept well; coughs little; expectoration very moderate in quantity, and in colour, &c. resembling that of bronchitis of a few days' standing; no pain in breathing, &c. Yesterday (25th) I ordered, in addition to the antimonial solution, calomel and opium.

Rep. Pil. Cal. c. Opio 6tis horis.

27th.—Good night; pulse 84, full and soft; expectoration moderate, and like that of bronchitis; cough and breathing easy; complains of hunger; his bowels were rather loose last night, owing, no doubt, to the combined action of the antimony and mercury. He has taken the antimonial at least eight times daily for several days since the commencement of the decided amelioration of his symptoms; there is much less difference now in resonance between the sides; no obvious difference in shape or size; spine slightly curved laterally; some obscure tube-sound still in inspiration on attentive examination, with coarse crepitus in the right lower lobe, approaching closely to the ear. In the left side there are sonorous murmurs of bronchitis, with ample vesicular penetration, but rather a dull resonance, attributable apparently altogether to the close proximity of the liver, owing to a peculiar shape of the chest.

The fallacies arising out of such variations in the form of the pectoral cavity, and in the position of the liver, stomach, &c. have been ably illustrated in this place, and in the pages of the MEDICAL GAZETTE, by my colleague Dr. Edwin Harrison.

On account of the purging, the antimonial was now omitted altogether, and the calomel and opium continued alone; and he was allowed a little fish for dinner.

31st.—Mouth rather tender; tube-sound of the breathing gone; the dulness of the lower right lung much diminished; the penetration by air could be detected more or less in every part, marked by coarse crepitus; feels himself better; had a good night.

Ordered Pil. Cal. c. Opio semel quot.

Mistur. Antimonialis, 3iss. (antimon.

gr. $\frac{1}{8}$.) 4ta. q. q. h. One chop for dinner instead of fish.

Jan. 3d.—Complaining of hunger; all the symptoms improving; pulse 90-100, soft, somewhat bounding; anxious to be allowed to be up.

5th.—The expansion, resonance, and penetration of air in the right lower lobe, are almost quite normal; on both sides there are still heard bronchitic murmurs.

7th.—Improving in all respects; affected lung apparently quite restored; hungry; walking about the ward.

Ordered two chops and half a pint of ale for dinner.

REMARKS.—Respecting the nature of this man's attack, in a therapeutical point of view, or for purposes of practice, no doubt could exist. The presence of a grave acute sthenic inflammation in the lungs was obvious. but the presence of pneumonia exclusively was not clear. It has been above intimated that I more than suspected at first a pleuritic effusion. My reasons for supposing the case to be one of effusive pleuropneumonia, were these—1. A pain attending inspiration, and ceasing with it; the pain excited by the act of coughing in the right side, added to considerable tenderness on percussion on that side as compared with the opposite, all pointed distinctly to pleurisy: then, 2. the shrill tubular breathing in the lower right lobe, attended by or mixed with almost no vesicular breathing, indicated, with much probability, when considered by themselves at least, the presence of fluid, obliterating the fine air-tubes, and compressing the large ones in the lower lobe, and occupying, to a greater or less extent, its place. On the other hand, the chest had suffered no change that we could detect on careful examination, either in size or shape; and the liver was found high up under the ribs, so that the pleurisy, respecting which there was little room for doubt, must have been accompanied by either a small serous effusion, or by an exudation of lymph only.

Remedies.—No mistake could well be made as to the general character of the treatment proper for such a case. The patient was treated principally by the lancet and tartar emetic, very nearly in the same way as that laid down in the Treatise of Laennec on the nature and management of Pectoral Diseases (miscalled “mediate auscultation,”) and which I have seen so often happily employed in the course of a season that I enjoyed the advantage of his clinical instructions at La Charité.

He was bled from a vein once to 16 oz.; and on two other occasions, a dozen leeches

were applied to the affected side; a couple of blisters also were used. No depletion, except the bleedings, was employed. The tartar emetic, which was used in rather less doses than Laennec, (viz. one-grain doses every other hour without increase), did not excite vomiting, purging, or even nausea, nor any profuse diaphoresis. The case progressed steadily so long as the antimony was employed, and continued to improve under calomel and opium, given in quantity sufficient to make, and for a few days keep, the gums slightly affected. He is now using no medicine, and is convalescent.

Only one explanatory observation is called for respecting the treatment of this case. The subject was a young and tolerably vigorous male. The disease was one of a highly inflammatory nature, seated in one of the most important of the vital organs. It had attained to a rather advanced stage, and seemed to threaten life every hour; for the difficulty of breathing was extreme, and asphyxia at first seemed not far distant. Further, according to general practice in such cases, very free, if not profuse, depletion by the lancet was indicated; yet venesection was but once employed to the extent of 16 oz.; and leeches (only twenty-four altogether) were afterwards employed.

Now such depletion falls short of the average in such cases considerably. To refer to the authority nearest hand that gives a formula for bleeding, I may quote Dr. Craigie, who, in his learned and instructive “Practice of Physic,” estimates the amount of blood required to be drawn in pneumonia in the adult, at about eighty ounces on an average.

The reason, then, why such moderate depletion was employed was this. From a very early age (viz., his sixth year, he said), he had been in the Royal Navy, until his twenty-fifth year, or thereabout, and during those seventeen or eighteen years he had had his daily allowance of grog. Since his discharge, he had enjoyed himself as opportunity offered. It did not distinctly appear that he was materially more intemperate than labouring men usually are, but his previous history, just referred to, and his having now, after many years' residence here, a London constitution, were together sufficient to warn me against large evacuations of blood. Instead of repeated venesection, I therefore used tartar emetic, with a little laudanum (two drops of which are contained in each oz. of our Mist. Antimon.) and blisters, and the man has done well, as I have stated.

CASE II.—*Hæmorrhage from the Stomach and Bowels.*

Lowther, female, 56, being in a very infirm state of health, and lately, within a

fortnight, attacked with profuse intestinal hæmorrhage both upwards and downwards.

The following is a sketch of her history :— About ten years since, or in 1832, she had influenza very severely, from which she slowly recovered, but since which she has never enjoyed very satisfactory health. About three years after, when she was in her 48th or 49th year, until which time she had menstruated regularly, she had profuse vaginal hæmorrhage; after this, her health continued even more infirm than before. Since 1832, at least, she had been subject to cough, especially in cold weather; but after 1835, these winter coughs gained strength, and she was soon thereafter attacked with severe bronchitis, with great dyspnœa and palpitation of the heart. About two years later she was again confined with asthenic bronchitis, palpitation, and angina pectoris, or, at least, extreme cardiac distress. In this attack I attended her. Her recovery from this illness was wholly unexpected. The principal remedies employed were expectorants, counter-irritants, anodynes, and latterly a very free use of alcoholic stimulants, on account of extreme feebleness of pulse, tendency to syncope, &c. Her dyspnœa was then ascertained to be mediately dependent in great measure on emphysema of both lungs, but partly also on adynamic hypertrophy of the heart, without valvular lesion. The bronchitis appeared to be the immediate cause of her sufferings. There were no dropsical signs. In 1839, or about two years later, she was again attacked with acute bronchitis and cardiac distress, but on this occasion the congestion of the lungs was followed by interstitial and vesicular hæmorrhage (pulmonary apoplexy), very extensive into the lower right lobe, and several pints of blood were coughed up. The remedies principally employed on this occasion were opium and alum, which latter was given in half-drachm doses, every hour at first, for several days with very satisfactory results. Under the operation of blisters mainly, and of time, with suitable diet and regimen, this attack also gradually yielded, and she recovered in about a month her usual health. Towards the close of last December she again complained of cough and some difficulty of breathing, and I prescribed our mixture, æther c. scillâ, with temporary relief. On Monday, the 27th ultimo, she brought up blood after coughing, and on the following night she vomited, during the night, nearly a quart of blood, without any observed intermixture of food.

Tuesday, 28th.—She had, since yesterday, four bloody motions, which amounted, together, by estimate of the attendants, to from two to three quarts.

At 12 o'clock I saw her for the first time since the commencement of the hæmorrhagic

attack. I found her in a state of great suffering, with much dyspnœa, extreme debility and extenuation, and in apparently a very discouraging condition altogether. The great indication was plainly at all hazards to arrest the hæmorrhage, for she was blanched, and her pulse was not far remote from threadiness; and her debility was such that even speaking in a low tone was a painful effort to her. She had pain no where.

Alum. Sulph. ʒss. c.; Liq. Opii Sedat. ℥v.;
Mist. Camph. ʒjss.; omni horâ ad
6tam vel 8vam vicem.

This I found, at my evening visit, had sat easily on her stomach; she had passed no blood since morning. I then ordered as follows :—

Mist. Æther Comp. ʒj.; Alum Sulph.
ʒss.; omni horâ.

I omitted the opium, because she seemed to be, and was herself sensible of being, very heavy, like one under the influence of opium, and added the æther mixture, which she had been accustomed to, on account of the depressed state of the vascular system, and the sensation of faintness complained of. This medicine, I found next day, had disagreed with her stomach; or at least vomiting of pale bloodless fluid followed hard on the second dose, and she consequently took no more of this or any other medicine until I saw her again. Meanwhile, the repressive effect of the alum seems to have continued, for no blood was passed from the evening to the morning visit.

Wednesday, 29th.—In consultation with my colleague, Mr. Phillips, I ordered the following, as a mild astringent little likely to disagree with the stomach :—

St. Infus. Rosæ Comp. ʒi.; Træ. Opii,
℥v.; Træ. Card. Comp. ʒi. omni
horâ. St. Kreasot. ℥i. c. Pulv. Gly-
cyrrh. p. r. n. Ht. Catapl. Sinapis
epig. stat.

Same day at 8 P.M. I saw him again, and found that the medicine had agreed with her stomach, but had not restrained the hæmorrhagic tendency. This evening she vomited twice, and altogether about two spitting pots full of blood, soon after getting out of bed for a little, to have it made up for the night; and in the afternoon previously had two bloody motions: the second very copious. I consequently ordered—

St. Plumbi. Diacetat. gr. iij.; Opii, gr.
ss.; Kreasot. ℥i.; Extract. Humuli.
q s. in pil. redact. repetend. 2da q.q.
horâ.

My reason for not recurring to the alum was its bulkiness, and the difficulty of disguising its astringent taste without objectionable additions or correctives. Ordered,

together with the lead, arrow-root and beef-tea in small quantities and at proper intervals, and as cool as possible.

In the evening of the 30th I found no blood had been passed, and she was more comfortable. She complained, however, of much heaviness, and seemed sleepy, and almost stupid. Ordered in consequence—

Plumbi Diacetat. gr. iij.; Extract. Hyoscyam. gr. iij. 3ta q.q. horâ.

31st.—Two evacuations to-day; neither of them bloody.

8 P.M.—As before; very feeble; pulse languid; much exhaustion; some sickness during the visit, which seemed referable to mere irritability—the momentary intolerance of a debilitated organ; no blood was evacuated. On minute inquiry I ascertained that for 24 hours at least she had from time to time been troubled with languors and faintnesses, as of approaching syncope. She was unable to rise out of the horizontal posture, or even to turn from one side to the other without much inconvenience, and even difficulty. I now ordered four ounces of port wine for immediate use, intending to increase the quantity next day should the effect prove satisfactory, as I expected. Ordered also the lead and hyoscyamus pills to be continued 4ta q.q. horâ. Also some soap and opium pills in case of sleeplessness, &c.

Jan. 1, 1842.—No hæmorrhage since last visit; a good night; wine has agreed perfectly; took one five-grain pill of soap and opium; pulse feeble, and powers generally very low; no nausea; bowels rather confined. Ordered—

To continue the wine, six ounces of red wine daily. To continue the lead pills at longer intervals, viz. 6ta q.q. horâ. To have an emollient enema immediately. Diet as before.

2d, 1 o'clock.—I found her eating a little boiled mutton. She had felt herself faint from hunger, and consequently asked for a little meat; had a very comfortable night from five grains of soap and opium; no blood passed since; bowels confined; pulse very feeble; no dyspnoea.

St. Pil. Aloes. Dilut. gr. v. stat. et repetat. pil. nocti si opus sit. To continue the wine. To have one chop for dinner, also one egg daily.

3d.—No blood passed since; pulse very feeble; countenance wan; has eaten a chop already (half-past twelve) with relish; bowels open last night; slept well. Ordered—

Mist. Ether. Comp. ʒiss. p. r. n.

3d, 9 P.M.—Rather costive; the bowels seem to resist the usual doses; no colic or other pains.

Ht. Enema Terebinth. stat. Sumat Alum Sulph. ʒi. c. c. Sacchari pauxillo 4ta q.q. horâ Prætermittantur Pil. Plumbi.

This change of styptic was precautionary rather than anything else. I was convinced I could use the alum to any extent without distrust or disappointment.

4th.—Still rather costive.

Sumat. Decoct. Aloes Comp. ʒi. omni horis donec sates responderit alvus.

After this nothing particular occurred, and no change was made before the 12th. Her meat and wine were continued. Opium was used at night when she wanted it. The alum was soon abandoned as uncalled for.

On the 12th she complained of some slight derangement of head and bowels from the opium, and I ordered the following:—

R Camphor. Pulv.; Extract. Hyoscyam. Extract. Papaver. Sing. ʒss. M. pro pil. xx. Sit dosis Pil. ii. vel iii. h.s. vel p. r. n.

This answered very well as an anodyne.

Her hæmorrhagic attack seemed now wholly subdued; and her condition one of anæmia and extreme debility rather than of active disease. But however long she may linger, it is not credible that she should again, for the third time, in her 56th year, recover from the effects of a desperate illness.

REMARKS. — *Pathology.*—The principal morbid conditions in this case were the following:—Emphysema of the lungs generally; very considerable hypertrophy of the heart, with diminution of power, and without, in all probability, any other change in structure than increase of its substance and enlargement in every way of its size; habitual bronchitis; recent congestion of the visceral veins, and more especially of those of the lungs, liver, spleen, and mucous membranes of the chest and abdomen, and an hæmorrhagic effort excited by that state of infarction at the internal surface of the stomach and small intestines immediately, and indirectly and derivatively, involving the whole visceral venous system. The depletion thus spontaneously effected was in its own nature clearly beneficial; and had the amount evacuated been less exhaustive, had it been moderate in quantities, and gradually withdrawn from the circulation, instead of precipitately and profusely, it seems not unlikely that my business would have been that of expectation rather than active interference. But the state in which I found the patient left no room for temporizing. This patient had had, as above stated, a former similar attack, which, like the present, was of the most perilous kind, and though differently seated was essentially of the same nature in its causation. I attribute the sanguineous effusion in this and the

former attack, and indeed in all such cases, to venous distension alone. The connection between cardiac disease and internal hæmorrhages has long been recognized. Two hundred years since, Albertini referred the cerebral hæmorrhage that destroyed Malpighi to a cardiac disease, under which he was proved to have laboured, and since then many have observed the same fact. The only writer of high authority that I recollect, who seems to doubt it, is Corvisart, who states that he had never met with apoplexy, at least attributable to heart disease; but he mentions having often found blood in the stomach and intestines of cardiacs; and he ascribes that appearance to regurgitation and engorgement. This tendency to internal hæmorrhage was, before Corvisart, ascribed usually to excessive power in the heart, in consequence of hypertrophy or increase of its muscular substance; and even subsequently, and since the broad distinction, practically as well as pathologically important, between active (sthenic) and passive (asthenic) aneurism or hypertrophy was laid down by Corvisart, the same view has prevailed. But this you will find to be an error. Looking at the matter physiologically it is a mistake to suppose that increase of muscular substance implies increase of contractile or muscular power. In the case of the voluntary muscles, structural development and vital endowments advance normally *pari passu*, but not so in the case of the contractile structure of the heart; and the inaccuracy of the analogy that has led to the very general bias of mind amongst pathologists to which I am now objecting, would, I make no doubt, have never so misled many, had the voluntary muscles been subject to morbid hypertrophy in like manner with those of organic life. The fact is, as I have shewn in the Croonian Lectures for 1838, (MED. GAZ. vol. i. 1838,) that in all cases of morbus cordis we have hypertrophy of the muscular substance of the heart, and we find the usually admitted evidences of increased power of the diseased organ principally in recent cases; in still vigorous subjects; in young hysterical females, and in athletic males; and generally in persons in a state of arterial plethora; while an opposite dynamic condition of the organ exists generally in long-broken constitutions; in old cases; in venous plethora; and in cases of old dyspnœa from emphysema and bronchitis, &c.

Such are the results of my reading and personal observation on this subject. Now with either state of cardiac vital power, the sthenic or asthenic, hæmorrhage may occur: in the sthenic state, more frequently in the brain and lungs I have observed, and in the asthenic state elsewhere; but exceptions each way are not rare. In the case of Lowther, for example, the lungs and bowels

have, successively and exclusively, each in their turn, been seats of hæmorrhage, and with a very similar, if not *precisely* identical state of the general circulation, and of the cardiac condition.

Remedies.—With respect to the means employed, the principal were alum and lead with opium, and other narcotics as adjuvant means.

For several years I have employed alum, more or less extensively, in dangerous hæmorrhages, where the stomach has not been unusually squeamish, and am convinced that among the styptics generally known and familiar, there is none more worthy of confidence. It may be given in any quantities, and for any length of time, without risk of serious inconvenience.

It is, on this account, particularly well suited for official practice, and especially for dispensary practice. In various liquid vehicles, or in powder mixed up with 1 or 2 scruples of sugar, 20 or 30 grains of the salt are easily taken at once, and much less is not sufficient for an adult under alarming hemorrhage.

In Lowther's case, lead was only employed when the stomach took offence at the bulkiness of the aluminous astringent, and alum was resumed as soon as the stomach seemed again favourable.

My reason for not using lead at first, and not continuing it after, was this:—I never venture to use lead to any extent without a narcotic, and, on this account. I find some other astringent frequently preferable. Guarded with opium, or even hyoscyamus, I am aware of no important risk attending the use of lead within the limits that have restricted it in my hands, viz. from 5 grains to 20; or even 30 grains daily in cases of the most urgent nature. I have not met with a single case of bad colic from lead so administered, nor above half a dozen slight ones altogether.

I may add that the bluish discoloration of the teeth, close to the gums, pointed out by Dr. Burton as attending the presence of lead in the circulation, was very distinct, as might indeed be expected, in this case.

REMARKS ON SALIVA.

To the Editor of the Medical Gazette.

SIR,

IN consequence of the appearance, in your journal of the 21st inst., of a communication, dated Islington, Jan. 12, 1842, signed A. H. Z., and headed "Remarks on Saliva," we feel compelled to request the insertion of the following statements concerning some recent observations of our own upon the same subject.

These observations were commenced on January the 7th, and were continued until the 14th, upon the saliva of a patient admitted into University College Hospital, under the care of Mr. Liston, for a fistulous opening in the duct of the right parotid gland. As early as the second day of our experiments (that is, on the 8th) we had already obtained several most interesting results, which, although (in conjunction with further observations) ultimately intended for publication, we then, and have since, most freely communicated to others, stating at the same time the conclusions we had drawn from them. Now, from the exact coincidence between some of those openly declared conclusions, and certain novel explanations regarding the acidity or alkalinity of the saliva, offered in the communication above alluded to, also from the date of that communication, and, lastly, from its anonymous character, we have been led, we think not unreasonably, to suppose that its author has taken unfair advantage of our experiments and conclusions. Impressed with such an idea, we have thought it our duty to request that, if it be erroneous, the writer of the paper in question will correct it without delay; and, further, that he will forward to you for publication, in the ensuing number of your journal, more ample proofs of the authenticity of his experiments and statements than any he has yet given, including his name and address, without which we may remark that those experiments and statements must remain destitute of value to others, and unproductive of credit to himself.

In conclusion, we beg most distinctly to declare that should our suspicions be proved to be unjust, and should the claim of priority, in reference to the explanations offered by A. H. Z., be clearly established in his favour, we shall be as willing to acknowledge his right as we confess ourselves anxious to defend our own.—We remain, sir,

Your obedient servants,

JOHN MARSHALL,

ALFRED BARING GARROD.

University College, London,
Jan. 26, 1842.

ON THE
MORTALITY OF LEECHES,
AFTER THEY HAVE BEEN USED.
BY M. VARLITZ.

EXPERIMENTS were instituted during the years 1839-40, under the direction of Professor Zeidlitz, with a view of ascertaining the influence which the blood of man, when labouring under different diseases, exercises on the health of leeches.

The leeches after being applied to any

patient were placed by themselves in a cylindrical glass vessel, with a large mouth, and capable of holding from half a pint to two pints of water. The date of their being placed there, and the disease of the person to whom they had been applied, had been carefully noted; they were supplied regularly with fresh water, and were not mixed with other leeches till after the lapse of three months.

The vessels in which they were kept appear to be much more favourable to their health than those made of earth, since only 23 per cent. died when placed in the former, while 90 per cent. died of those which were kept in earthen vessels. Of 455 leeches employed during ten months, from Sept. 1839, to July 1840, 225 or 48 per cent. died, and this mortality is probably almost entirely owing to the noxious properties of the blood they drew, since 50 per cent. died of those who did not disgorge the blood, while the mortality of those who were emptied of blood before being placed in the vessel was much less.

Those who were put by, without being emptied, disgorged the blood sooner or later; most speedily (within the second or third day) when they had been applied to hemorrhoids, or to patients suffering from scurvy, or typhus.

The proportionate mortality of leeches employed in different diseases was as follows:

Of 60 leeches employed in cases of typhus, there died 42 = 70 per cent.

Of 176 employed in hemorrhoids, there died 72 = 40 per cent.

Of 93 employed in nervous diseases, there died 36 = 38 per cent.

Of 35 employed in pulmonary phthisis, there died 13 = 37 per cent.—*Journal de Médecine, &c. de l'Académie Impériale Médico-Chirurgicale de St. Petersbourg, and Brit. and For. Med. Rev.*

ON THE CURE OF
OBLIQUITY OF THE NOSE BY SUB-
CUTANEOUS DIVISION OF THE
CARTILAGE.

BY DR. DIEFFENBACH.

THIS condition of the nose which, however common in a slight degree, is, in an extreme, remarkably ugly, has been twice cured by Dieffenbach. The patients were both young persons about 20 years old. In one the obliquity was congenital, in the other the consequence of a fall; in one the nose was turned to the right, in the other to the left, and in both to such an extent that it was thrust completely out of the middle of the face with its point turned towards the cheek, and the nostrils lying almost one over the

other. The operator ran a small knife through the skin on the side of the bridge of the nose where the cartilaginous and osseous parts meet, and carried his incision so as to separate from the bone the bridge of the nose, one of its lateral walls, and a flap beneath the skin. Then through another puncture on the other side just under the bridge, he divided in the same direction the cartilage and the septum. The nose could now be without difficulty put right; compresses kept it so; no ill consequences followed; and shortly the patients were both so much improved that they could barely be recognized.—*Casper's Wochenschrift*, and *Brit. and For. Med. Rev.*

ILEUS CURED BY A BELLADONNA ENEMA.

BY DR. BECKER.

A WOMAN, 48 years of age, was suddenly seized with vomiting, pain in the bowels, and constipation. The vomiting became more and more fetid, and at last stercoraceous, and after five days' treatment was worse than ever. M. Becker then gave her an enema made with one drachm of the root of belladonna, which, within a very short time after its administration, put a stop to the pain and vomiting, and in half an hour brought away a stool containing much blood. After this, the woman gradually recovered. No narcotic effects were observed from the employment of the belladonna.—*Gazette Médicale de Paris*; and *Edin. Med. and Surg. Journal*.

ON THE NITRATE OF POTASH AS A CURE FOR ACUTE RHEUMATISM.

BY M. ARRAN.

THE administration of the nitrate of potash for the cure of acute rheumatism, a remedy which in England holds a considerable reputation, has been revived in the Parisian hospitals, and apparently with great success. In M. Arran's paper, twelve cases are related, three of which were complicated by rheumatic endocarditis or pericarditis, and in all, a cure was effected by the nitrate of potash alone. Two of these cases suffered a relapse, but the same means sufficed to produce a cure. The mode of administration consisted in dissolving from two to five drachms of the nitrate of potash in about a pint and a half of some ptisane, sweetened to suit the taste of the individual, and this quantity was taken in the course of the day. The quantity was daily increased. The average quantity of nitrate taken daily by each patient was a little more than eight drachms in about four and a half pints of fluid. The cures were effected within eight days, on an average of the twelve cases re-

lated. The administration of this remedy caused copious perspirations, sometimes also free alvine evacuations, less frequently increased flow of urine. The pulse diminished in frequency and hardness, and the impulse of the heart was lessened. The nitrate was given with safety in every period of the disease, but was found to be most successful when administered shortly after its invasion. The only contraindication to the use of the remedy was the existence of inflammatory affections of the stomach or intestines. If gastric symptoms should arise during the administration of the nitrate, it ought to be stopped, and depletive measures used till these subside.—*Journal des Connaissances Médico-Chirurgicales*; and *Edin. Med. and Surg. Journal*.

FREE ACID IN SPIRITU ÆTHERIS NITRICI.

Mr. HARVEY states, that "This spirit, however recently or carefully prepared, contains a portion of free nitrous acid, one effect of which is to decompose various substances with which the spirit is frequently combined in prescriptions. Thus, if it is ordered in a mixture with iodide of potassium, it will liberate free iodine; if prescribed with *mistura ferri composita*, it will convert a portion of the proto-carbonate of iron into the inert peroxide; if added to simple infusion of roses, or to mixture coloured with red poppy syrup, it will gradually decolorize it. For mixtures such as the above, I use the *sp. æth. nit.* deprived of its acid, by being kept standing on crystals of bicarbonate of potash. If the spirit be of full strength, no appreciable quantity of the alkali or nitrate of potash is dissolved, and by the use of the *spiritus ætheris nitrici* so treated, all the objections above described are obviated."—*Pharmaceutical Journal and Transactions*.

PREPARATION OF BICARBONATE OF SODA.

BY M. MOHR.

THE preparation of this salt is best effected, whether on the large or small scale, by passing the carbonic acid gas over the carbonate of soda in coarse powder. A phenomenon takes place here, which is frequently observed in chemistry; that is, that at the beginning of the operation the combination proceeds slowly and with difficulty; while, on the contrary, when it has once commenced, it continues with much force and energy.

Take a large cylindrical bottle without a bottom, and with a cork fitted to its mouth, in which a stop-cork is accurately fixed. Turn this vessel with the bottom upwards; fix a wire to run through the middle; then fill the interior

with pieces of chalk (or marble) about three quarters of an inch in size; adapt a disk of copper or of glass, by means of the wire, so as to keep in the chalk, and place the bottle, with the mouth upwards, in another vessel which contains the muriatic acid. In the next place, put the carbonate of soda into a bottle with a very large opening, and make this to communicate, by means of a tube, with a stop-cock of the bottle containing the chalk.

On opening the stop-cock, the muriatic acid in contact with the chalk disengages carbonic acid gas, which passes into the vessel containing the carbonate of soda. When this is emptied of atmospheric air, it is stopped to prevent any further escape of gas, and the apparatus is then left to itself. Thus, a continuous supply of carbonic acid will be produced, which, if formed more rapidly than the absorption of the soda requires, will force the muriatic acid into the lower vessel, and thus retard the production of the gas.

It should be remarked, that the absorption is sometimes so rapid, that the muriatic acid itself is carried over and unites with the soda; to prevent this inconvenience, it is sufficient to place an empty bottle in the passage of the gas.

By means of this apparatus, five or six pounds of bicarbonate of soda are easily prepared in a day, without any other trouble than the filling of the vessels.—*Annalen der Pharmacie*; and *Pharm. Journ. and Transactions*.

SUCCESSFUL CASE OF AMPUTATION OF THE HIP-JOINT.

By M. TEXTOR.

A MAN was seized with gangrene of the leg, for which the knee was amputated through the knee-joint. The gangrene, however, seized the stump, and M. Textor was obliged to amputate the thigh at the hip-joint. The only unusual occurrence noticed during the time of the operation was, that the crural artery was plugged up with a fibrinous clot, notwithstanding which a ligature was passed around it. No unfavourable symptom followed; and four months after the operation the man had so far recovered his health as to be able to walk about the court of the hospital.—*Gazette Médicale de Paris*; and *Edinburgh Medical and Surgical Journal*.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, Jan. 13, 1842.

Daniel Wheeler, Chelmsford.—P. J. Wiggin-ton, Bingham, Notts.—G. Robinson, White-haven.—T. J. Starling, Higham, Ferrers.

Thursday, Jannary 20, 1842.

Edwin Horatio Clement, Wetwang, Yorkshire.—Richard Horne.

A TABLE OF MORTALITY FOR THE METROPOLIS,

Shewing the number of deaths from all causes registered in the week ending Saturday, Jan. 15, 1842.

Small Pox	3
Measles	39
Scarlatina	9
Hooping Cough	57
Croup	11
Thrush	2
Diarrhœa	13
Dysentery	0
Cholera	0
Influenza.....	0
Typhus	23
Erysipelas	5
Syphilis	0
Hydrophobia.....	0
Diseases of the Brain, Nerves, and Senses ..	165
Diseases of the Lungs, and other Organs of Respiration.....	356
Diseases of the Heart and Blood-vessels	26
Diseases of the Stomach, Liver, and other Organs of Digestion	53
Diseases of the Kidneys, &c.....	7
Childbed	5
Ovarian Dropsy	0
Disease of Uterus, &c.	2
Rheumatism	2
Diseases of Joints, &c.	5
Ulcer	0
Fistula	0
Diseases of Skin, &c.	1
Diseases of Uncertain Seat	124
Old Age or Natural Decay.....	107
Deaths by Violence, Privation, or Intemperance	26
Causes not specified	1
Deaths from all Causes	1042

METEOROLOGICAL JOURNAL.

Kept at EDMONTON, Latitude 51° 37' 32" N. Longitude 0° 3' 51" W. of Greenwich.

January.	THERMOMETER.	BAROMETER.
Wednesday 19	from 27 to 33	30·32 to 30·42
Thursday . 20	22 35	30·05 29·97
Friday . . 21	25 35	29·93 29·95
Saturday . 22	28 35	29·81 29·21
Sunday . . 23	24 35	29·14 29·53
Monday . . 24	15 31	29·73 29·62
Tuesday . 25	21 38	29·23 29·64

Wind, S.W. on the 19th, N.E. on the 20th and following day, S.E. on the 22nd, N.W. on the 23rd, N.W. and S.E. on the 24th, N.W. on the 25th.

On the 19th and three following days a general overcast; snow fell thick in the afternoon, and rain fell in the evening, of the 22nd. The 23rd and following day, generally clear. The 25th, morning overcast, with snow; otherwise clear.

Amount of melted snow and rain, ·47 of an inch.

CHARLES HENRY ADAMS.

WILSON & OGILVY, 57, Skinner Street, London.

THE LONDON MEDICAL GAZETTE,

BEING A
WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

FRIDAY, FEBRUARY 4, 1842.

LECTURES
ON THE
PRINCIPLES AND PRACTICE OF
PHYSIC,

Delivered at King's College, London,

BY DR. WATSON.

Treatment of acute pericarditis, and endocarditis: blood-letting: mercury; blisters. Chronic and partial inflammation of the pericardium. Disease of the aorta. Thoracic aneurisms; their various situations, and symptoms: plan of treatment.

I TRUST that I made distinctly apparent, in the last lecture, the great danger which belongs to every case of acute inflammation of the pericardium. First, there is the danger of *speedy death*. If the inflammation goes to the extent of effusion, and the effusion of serous fluid be large, and the pericardium be distended by it, the action of the heart is so much oppressed by the liquid surrounding it, that it falters and flutters, and at length stops, and goes on no more. Secondly, there is the danger that (the pericardium having become adherent) other structural changes will, soon or slowly, develop themselves; and first render life burdensome and full of suffering; and then consign the patient to an earlier grave than, but for the rheumatism, might have awaited him.

Now what can we do to prevent, or to diminish, these evils? I once thought that if we caught the inflammation at its very commencement, we might calculate upon a perfect cure, by first bleeding the patient freely, and by, secondly, putting him as speedily as possible under the specific influence of mercury. I am sorry to be obliged to say, that the more I see of this formidable malady, the more reason I find for fearing that it is seldom within the possibility of thorough repair. Bring the inflammation

to a stop, you perhaps may; or nature will do it for you; and you may greatly assist the natural powers in effecting this. But that alone can be called a cure, which either leaves the structure of the part affected in its original integrity; or, at any rate, leaves no spring or source of farther changes for the worse: and such complete recovery as this I seldom dare to hope for in cases of acute and general pericarditis.

There can be no use in deceiving ourselves in this matter; but we may very easily deceive ourselves. In a large proportion of cases, whether they be treated well, or ill, or not treated at all, the patients will *seem* to recover. But I say that the recovery is so far unreal, that it involves the germ of future destruction. If any of you have read Bouillaud's heavy, yet instructive, work on diseases of the heart, you will know that he boasts of the success of his treatment in acute pericarditis. He declares that by the bold use of the lancet he *extinguishes* the inflammation; jugulates (as he calls it) or strangles the disease in its birth; and restores the patient to the full condition of health, or to the state in which he was before the disease came on. You must hereafter judge of this question for yourselves; but it is my duty to caution you against crediting these statements. Not that I would insinuate a doubt of M. Bouillaud's veracity; but I believe that he has been deceived by false recoveries; and I would not have you beguiled, by his statements, into the indiscriminate adoption of that "enlightened hardness" which he endeavours to inculcate.

But if we look closely at his statements, we do not find, after all, any such wonderful success. Of 18 patients, 6 died; a very large proportion, 1, viz., in 3. To be sure, with some ingenuity he makes the proportion to be 1 in 7. For three of the fatal cases occurred, he says, before he took to his heroic plan of blood-letting; and excluding these 3, he has 15 cases, and only

3 deaths ; or 1 in 5. But one of these three proved fatal from the supervention of tetanus ; therefore setting that also aside, there will be 14 cases of the disease and two deaths. Now, I have not, hitherto, been able to look over my books, but I am quite certain that the mortality in the Middlesex Hospital has been nothing like so great as this—the *immediate* mortality, of course, I mean—either among my patients, or among those of my colleagues ; and I know that, until within the last twelve months, Dr. Latham had not lost a single case of rheumatic pericarditis in the course of the first attack of that disease for several preceding years.

But what I most doubt about, is the *true* recovery of Bouillaud's surviving patients. I say such patients do *apparently* get well. In some of them, indeed, a bellows-sound remains, sufficiently indicative of the damage that the organ has sustained : and I have already told you that *any* amount of change, however small, which alters the healthy proportion of the cavities and their outlets, or which interferes with the natural play of the heart, is a seed from which farther changes will at length be found to grow. But patients will get so far well that you can detect nothing wrong about them. Follow them, however, in their subsequent lives ; and you will learn that many of them very soon begin to find that they are incapable of doing or bearing all that they could do or bear before their illness : and if this does not soon happen, it does at last. The disease of the heart (if the patient be not cut off by some other malady) becomes at length obvious : and when he dies, the source of the ultimate changes is commonly to be detected. There is an adherent pericardium ; or there is disease of the valves ; of which no other account can be given than that it had continued to exist since the primary symptoms of carditis ceased ; and that it had caused all the rest—the hypertrophy, to wit, and the dilatation.

The remarks that I have now been making bear upon the question, to what amount blood-letting should be carried in acute pericarditis. If the general symptoms teach you that it exists, and yet no sound of attrition is heard, you may, in that case, hope, if in any, to arrest the inflammation, and to achieve a complete cure, by early and copious bleeding. But if the *to and fro* sound has been audible, I do not think the consequences of the inflammation can be so abolished. I believe that the best event which can then happen is adhesion : but at any rate we must bleed our patients from the arm, and topically ; yet not so lavishly as Bouillaud recommends. I know that his treatment has been fairly tried in this country, and has failed. And I think (but this I only offer as an opinion) that there is a

peculiar risk in frequently bleeding to syncope in this affection. There is, almost always, endocarditis (in the rheumatic cases at least) coincident with the pericarditis : and there is a readiness or tendency towards a deposition of the fibrin of the blood, in the shape of minute vegetations, upon the inflamed valves : and it is probable that this tendency may be favoured by a retarded movement of the blood over them ; and still more so by its temporary stagnation. In the experiments on the ass, referred to before, the circulation (kept up by artificial breathing) became languid and sluggish, and vegetations were deposited upon those valves which had been irritated by the wire. Hence there is, I think, a danger in bleeding to such an extent in these cases, as to bring the heart's action to a pause in *deliquium*. Bleed till some effect on the pulse is accomplished ; and then stop : and bleed again, or refrain from bleeding, according to circumstances. But you may freely cup the præcordial region, or cover it repeatedly with leeches.

At the same time, you will endeavour to get the gums tender with mercury. And it is most unfortunate that, in this disease, the system frequently resists, with great obstinacy, the influence of that mineral. Sometimes, do what you will, you fail to attain your object. A knowledge of this fact may render you less scrupulous than you would otherwise be in the use of the remedy. Not only should calomel be given in frequently-repeated doses, guarded, if need be, by opium : but mercurial inunction should also be had recourse to, in these perilous cases, from the first. When the gums do begin to rise, there will always be, according to my experience, a manifest subsidence of the distress, and mitigation of the symptoms. There will be less pain, less palpitation, less dyspnœa. The mouth should be *kept* sore for some time together : for supposing the membranes to adhere, it does not follow that the inflammatory process should thereupon cease.

When you learn, from symptoms and signs already described, that the pericardium is distended by liquid effusion, I would advise you to lay a large blister over the præcordia. The diminution, or complete disappearance of the liquid, under this treatment, is often rapid and striking.

Even when all the symptoms have vanished, previous disappointments have taught me not to be sanguine as to the permanency of the recovery. I believe that months, and years even, may elapse before the secondary effects of the mischief left behind by the inflammation begin to be palpable. But in many instances, they shew themselves very early. Others have noticed all this ; especially Dr. Latham, who truly

remarks, that "in acute pericarditis there is no medium between complete cure and certain death." He thought, at the time when the lectures from which I quote were given, that the early and vigorous use of mercury would be equal to the complete cure. I think I may venture to say that he has since seen reason to *doubt* on that point. I have several times already expressed my own belief, that where the *to and fro* sound has manifested itself, that is, where the inflammation has gone so far as the effusion of coagulable lymph, if the patient does not die outright, he survives at the expense of an adherent pericardium; and he survives only for a time. *Hæret lateri læthalis arundo*. But I am also of opinion, that by the free, yet cautious, employment of the lancet and of leeches, and by the early and unshrinking use of mercury, the mischief may be greatly limited, and the consecutive changes staved off to a distant period. I need scarcely say that other minor expedients are to be put in force: strict abstinence I mean, perfect quiet, and an occasional purgative to clear out the alimentary canal.

When the pericardium has once become adherent, if (as is very likely) the patient again suffers acute rheumatism, he will again have heart symptoms. Not, of course, the *to and fro* sound; but pain, palpitation, and dyspnœa. Now it is of some practical importance to be aware that this renewal of morbid action does not require that active treatment which the primary inflammation demanded. The effect of such renewal will be to augment the existing mischief; but the morbid process is much less vigorous, and much more easily subdued. It will generally yield to the repeated application of leeches over the situation of the heart, and to the moderate exhibition of mercury.

Although inflammation in this, as in other serous membranes, shews generally a strong disposition to spread all over the affected surface; yet the pericardium does seem susceptible of slight and partial inflammation. You will very frequently indeed see, upon laying open the pericardium, a white spot, as big as the finger-nail, upon the surface of the heart: and I have examined these spots very often: I believe they almost always consist of a thin flake of lymph lying sometimes beneath, but oftener upon, the membrane. They may, in fact, be peeled off sometimes, and the subjacent membrane left smooth and sound. On one occasion, I met with a long ribbon of lymph passing from the centre of one of these white spots, to connect itself with the loose bag of the pericardium. I conclude, therefore, that these spots are really the result of a very limited inflammatory process: but under what conditions they arise, or whether

during their formation they furnish any symptoms, I do not know.

So much then for the heart itself, and its membranes. There still remain to be considered the morbid conditions of the great vessels that spring from it, and lie in the thorax, and especially of the aorta; those morbid conditions I mean, which declare themselves by symptoms, and which become the object of medical treatment.

The aorta is very frequently indeed found diseased, and its disease, as I have already explained, is a common cause of organic changes in the left ventricle of the heart. You will find its inner membrane, instead of being smooth, and of a uniform yellowish white colour, rendered very uneven by a great number of yellow opaque projections, of cartilaginous consistence, lying immediately beneath the membrane. And in a more advanced stage of the same diseased condition, you may perceive that some of these projecting little masses consist of irregular scales of bone, having sharp edges; and sometimes these plates of ossific matter are quite bare; the inner membrane is gone, and the exposed bone is washed by the current of blood. Now the necessary effect of these changes is to diminish and destroy the natural elasticity of the vessel; and as there is a perpetually recurring strain upon it, by the blood sent out from the heart, the vessel dilates, becomes larger than it should be. This, if you please, you may call aneurism; but a simpler name is dilatation. In other cases, the enlargement is not general, but partial. A pouch is formed on one side of the artery, and this pouch may be very small or very large. It appears to result from the giving way, the rupture in short, or the ulceration, of the inner and middle coats of the artery, and then the blood, passing through the broken part, presses against the cellular coat of the vessel, and distends it into a sort of bag. There have been curious discussions as to what should be called true aneurism, and what should be called false aneurism; discussions upon which I have neither time nor taste for entering. It is enough for all practical purposes to state, that the artery sometimes dilates only, sometimes throws out a pouch. I know that you have received, or will receive, from my colleague, Mr. Arnott, all the information that is requisite concerning the modes in which aneurism may arise. These are matters of the highest interest in surgery, for surgery can cure an aneurism; an achievement which is but seldom within the skill of physic.

I have known two cases in which the diseased artery all at once cracked across—its inner and middle coats, I mean—and death very rapidly ensued. In one of these in-

stances, the crack extended round a considerable part of the circumference of the aorta. It looked exactly like a clean cut made by a sharp knife. The blood, in this example, dissected its way (if I may so say), between the middle and external coat of the aorta, and got at last into the pericardium, and coagulated round the heart in a uniform layer : so that a *bag* of coagulated blood was enclosed in the bag of the pericardium. Of course, nothing can be done for such cases as these.

Most commonly the aneurismal tumor goes on enlarging : and often it becomes lined, and sometimes it is nearly filled up, by layers of coagulated blood, which form in its interior. At length the tumor bursts, and the patient perishes.

Aneurisms of the thoracic aorta are met with chiefly in the earlier portions of that vessel, in its ascending part, and in its arch. There seem to be two reasons for this. One is, that the diseased state of the coats of the artery (to which the rupture and subsequent aneurismal pouch, or the dilatation, as the case may be, are owing), is more common, and more advanced generally in that part of the aorta ; and another reason is, that the impulse of the blood, as it is forcibly propelled from the left ventricle, is sustained chiefly by the same part.

Mere disease and dilatation of the commencing aorta, affords, as I formerly endeavoured to explain, a physical impediment to the due emptying of the left ventricle. It is a common cause, therefore, of hypertrophy and dilatation of that ventricle ; and consequently, the *signs* of hypertrophy and dilatation of the left ventricle of the heart will at length result from disease and enlargement of the aorta near its mouth.

When aneurismal pouches form, as they often do, at the very entrance of the aorta, or in the coronary arteries, they often defy detection. I, at least, know of no sign of their existence upon which a physician can rely, or which can lead him even to suspect such a state of matters. But all at once the patient drops down dead : and upon searching for the cause of this sudden extinction of life, you find the pericardium distended with blood, and the source of that blood you find to be the ruptured aneurismal pouch, so near the root of the aorta, as to project *within the pericardium*. In the preparation which I hold in my hand, an unbroken aneurism actually bulges into the *right ventricle* of the heart.

When the aneurismal tumor occupies a portion of the ascending aorta a little more distant from the heart, or is formed at the arch itself, it sometimes attains a large size, and the symptoms of its existence are derived from the effects its enlargement pro-

duces on the surrounding textures ; and these effects are apt, for a while, to be obscure and equivocal, until an external pulsating swelling makes its appearance, or a sudden gush of arterial blood through the mouth, discloses the true nature of the malady.

In these cases we *infer* the existence of aneurism sometimes from peculiar symptoms. Aneurism at the arch of the aorta may come to press upon the trachea, and impede the breathing ; or by its effect upon the recurrent nerves, it may cause a very accurate mimicry of laryngitis. The operation of tracheotomy, as I told you before, has more than once been performed, to relieve the supposed inflamed condition of the larynx, while the sole disease was aneurism at the arch of the aorta. Such mistakes are always discreditable ; and the lesson they furnish should not be lost upon us. Whenever we find that a wheezing dyspnoea has gradually arisen, which no apparent affection of the air passages satisfactorily accounts for, and the patient has a sense of pulsation within the thorax, we may suspect that an aneurism is at the bottom of these symptoms.

The effect of aneurismal enlargements of the artery to cause *absorption* of the neighbouring tissues, upon which the tumor presses, is very curious. You know that even the solid bone is removed, worn away as it were, before an advancing aneurism. Hence it not unfrequently happens that the trachea, or some of the larger bronchi are at first flattened, and then give way ; the aneurism breaks into the air passages ; and the patient, overwhelmed by a torrent of blood into and from his lungs, perishes in a few seconds. Or the tumor may contract adhesions with the pulmonary tissue, and destroy it to a certain extent, and so cause mortal hæmoptysis. But such cases are not always *fatal at once*.

Again, according to its situation and extent, an aneurism of the thoracic aorta may press upon the œsophagus, and cause the ordinary symptoms of stricture of that tube. Hence cardiac disease, with pulsation within the chest, accompanied at length by the signs of a constricted œsophagus, form strong presumptive indications of the existence of an aneurism ; and in such cases, the œsophagus at last ulcerates through, and then copious and fatal hæmorrhage ensues. Hæmatemesis it may be called, though the blood is vomited not from the stomach, but from the gullet. A patient in the Middlesex Hospital, with symptoms of stricture of the œsophagus, one day brought up from the throat a red mass, which, at the moment, was supposed to be a bit of meat that he had been trying to swallow. It really was

part of the clot from an aneurism; and it was speedily followed by a stream of red blood, and by death.

Again, aneurism of the thoracic aorta does frequently obstruct, by its juxta-position and pressure, the vena cava superior; nay, it may even obliterate that vessel, of which I have seen one instance. I alluded to the case before, as one of the most curious examples of dropsy I ever saw. It illustrated well, also, the effect of venous obstruction in causing serous effusion. The man was a patient of Dr. Hawkins. He presented a most extraordinary spectacle. His face, neck, and arms, were tumid and anasarcous to an enormous degree; while there was not the least trace of swelling or oedema anywhere below the ribs. He looked as if his upper half had been stuffed; and except that it was distressing, his appearance was extremely comical. His countenance was livid; his eyes seemed starting from their sockets; and even the cellular tissue beneath the conjunctiva was oedematous. The integuments of his neck and chest were quite brawny; and his arms were so swollen that they projected from his sides. The surface of the thorax in front was marked by numerous veins, which were gorged with blood; and here and there patches of ecchymosis were visible. You may form some notion of the degree of mechanical congestion that existed, when I tell you, that upon the scarificator being applied, after a cupping-glass was taken off, upwards of twenty ounces of blood escaped in two minutes. The epigastric veins were visible and tortuous, and a free communication by anastomosis existed between these veins ascending from the inguinal region, and the mammary veins. There was a bellows-sound, which increased in loudness and harshness, from the root of the aorta to the top of the sternum. The patient soon died; and a large aneurism of the aorta was laid open by lifting up the sternum, to which the artery had adhered, and into which, indeed, it had eaten a little. Not far above the right auricle, the vena cava was obliterated. I have seen two similar cases since, in which, however, the superior cava was in some measure pervious, although its channel had been very much narrowed by the aneurismal pressure.

But aneurism of the thoracic aorta may exercise its pressure in another quarter, and wear away the bones of the vertebræ, and cause pain in the back, and ultimately palsy of the parts below that portion of the spinal cord; so that pain in the back, with pulsation, may justly awaken suspicion of aneurism making its way backwards. I remember hearing Dr. Farre describe a case of this kind, to inculcate the necessity of paying attention to the *sensations* of a patient. A man came to him for advice, having been told by

another physician that there was nothing the matter with him—that he was fanciful. But when an adult person makes a constant complaint of certain morbid feelings in a part, the probability is that he *has* something the matter, and we must investigate the case with what helps we can get. In the instance in question, there were two signs of disease, and two only; a white tongue, and pain in the back. The whiteness of the tongue soon disappeared under the use of some medicine addressed to the digestive organs. The pain in the back remained. Dr. Farre interrogated the patient minutely every time he visited him, till at last the man grew vexed and tired, and said, pettishly, “I know that if you split me down the middle, I am sound on my right side, and diseased on my left.” Very soon after he was found dead in his bed. What he had said was perfectly true: there was an aneurism pressing on the dorsal vertebræ of the left side.

Another consequence of an enlarging thoracic aneurism, sometimes observed, is pressure upon the *thoracic duct*, causing engorgement of the lacteals, and inanition. In short, whatever parts the aneurism may reach, and subject to its pressure, may have their function thereby suspended or disturbed, or their structure spoiled.

One sign of aneurism of the arch of the aorta, which I have myself several times verified, is a difference in the force of the pulse in the two radial arteries. The pulse in the one wrist will be extremely feeble, or even disappear. This happens when the direction and position of the arteria innominata, or of the left subclavian artery, become altered in consequence of the enlargement of the aorta; and sometimes the one or the other of these arteries is completely closed up. But inasmuch as a similar difference of the pulses may arise from other causes, we can only look upon this symptom as one which may help to solve an ambiguous case. To give you an example of a difference in the beatings of the artery in the two wrists from other causes, I may mention a case in which the subclavian artery was thrown forwards, and compressed by an exostosis on the first rib. The case is mentioned in Mr. Mayo's Pathology. It occurred in a patient of mine, the husband of a nurse in my family. I had a girl for some time in the hospital, in one of whose arms no artery could be found to pulsate. Why, we none of us could make out.

In the numerous specimens upon the table, you will find ample evidence and illustration of almost every one of the effects which I have described as apt to result from the pressure of thoracic aneurisms of the aorta. But similar effects would ensue from the same degree of pressure, however caused; and other morbid tumors, cancerous tumors

in particular, are not uncommon within the thorax. Hence these same effects, considered as symptoms, are in themselves of equivocal import. If they occur in conjunction with signs of disordered circulation, or of a diseased heart, we may reasonably conjecture that they are produced by an aneurism. But we can seldom be quite sure of this, until the advancing aneurism comes near the surface, and causes an external prominence or tumor which pulsates visibly, or of which the pulsations are perceptible by the touch. And even then it may require some care and tact, to avoid mistaking an enlarged gland or a malignant growth, lying over a sound artery, and receiving an impulse from it, or communicating to it some unnatural sound, for the diseased vessel itself.

The pulsating tumor, if the aneurism has formed in the ascending aorta, will make its appearance, usually, on the right side of the sternum. If the aneurism is situated in the forepart of the arch, it produces a bulging at the sternal extremities of the upper ribs on that side. When it springs from the summit of the arch, the tumor rises above the sternum, and the sternal ends of the clavicles; and when the disease occupies the descending portion of the thoracic aorta, it will sometimes destroy the ribs and bodies of the vertebræ, and push forward the lower part of the left scapula: or it may shew itself in front, beneath the left clavicle.

When such a tumor makes its appearance, and is attended with a steady, heaving pulsation, synchronous with the systole of the heart, the doubt and obscurity which may have previously hung over the nature of the patient's disorder is cleared away. A little attention to all the circumstances of the case, will generally suffice to determine its true nature.

There are, however, some errors prevalent respecting these pulsating tumors, which errors I shall glance at in passing. In the first place, the pulsation of the tumor is frequently, most frequently, attended with a rough bellows-sound; and some persons rely upon this as distinctive of the nature of the pulsating tumor. They hold that this harsh bellows-sound is always discernible in an aneurismal tumor; and that when such a sound cannot be heard, the tumor is not an aneurism. But this is a mistake. There have been in the Middlesex Hospital within the last six months (1837), two instances of pulsating tumors in the fore part of the thorax, unattended with any bellows-sound; yet they both were ascertained, after death, to be aneurismal tumors. One of the aneurisms is before you. I may say the same of the purring thrill. It is a common, but by no means a necessary attendant upon thoracic aneurisms. Again, much stress was

laid by Laennec, upon the circumstance of the aneurismal pulsation being single, being unattended by any second sound. But this is not a true rule if taken universally. In the instance which furnished this very preparation, the sounds were double, just like those of the heart. The second sound heard *is*, no doubt, the second sound of the heart, conveyed from the place of the aortic valves, where it originates, along the course of the vessel, to the aneurism; which often indeed lies in contact with the heart, and could scarcely fail to have the diastolic sound propagated through it. It is a fact not so easily explained, yet it certainly is a fact, that a double sound *may* be audible in aneurisms very distant from the heart. Dr. Davies states, that he never heard a second sound in abdominal aneurisms; yet, I presume, that under favourable circumstances, the sound of the closing of the flood-gates at the root of the aorta, may be heard far along its channel. I can account in no other way for the second sound, heard by myself and by many others in a *popliteal* aneurism. I mentioned before, a patient whom I saw in St. Bartholemew's Hospital, and in whom an exceedingly loud diastolic sound, like the sharp whining note of a dog, was audible by the ear placed upon his arm over the brachial, and even over the radial arteries.

There are some very judicious remarks made by Dr. Hope upon the sounds that are apt to be heard in these pulsating aneurismal tumors to the right of the sternum; shewing how they may be distinguished from the natural sounds of the heart itself, conveyed to that spot through some dense conducting medium. He observes (and all that I have seen coincides with this observation), that the first of the aneurismal sounds, when there are two, the sound that coincides with the pulse, is always louder than the natural systolic sound of the heart, and generally louder than any of the morbid systolic sounds; and that instead of increasing in intensity, as the stethoscope is moved gradually towards the præcordial region (as it ought to do, if it were the conducted sound of the heart itself), it diminishes in loudness, until it is gradually lost in the actual systole of the heart. Whereas the second sound heard over the tumor does augment as we get nearer the heart, for it is, in truth, the diastolic sound of the heart, and therefore is more audible as we approach the point where it is generated. The sounds of aneurisms of the aorta are usually audible in the back also; and if a very loud bellows-sound be heard there, where the natural sounds, if heard at all, are always much abated, that circumstance is almost conclusive of the presence of an aneurism, or of some great change in the aorta.

To give you some notion of the course

which aneurism of the thoracic aorta may run, I will describe the last instance of that disease which has occurred under my own observation. The subject of it supplied the preparation to which I last referred.

He was a stout, healthy-looking man, of 40, a private coachman. He became my patient in the hospital on the 8th of September, 1836. He complained of pain and tenderness around and above the right mamma. The pain was increased by a full inspiration; and when lying on the opposite side, he felt as though he was tied in the painful part.

He had been ill a month only. His illness commenced with severe rigors, and fever, and sudden pain in the side, for which he was bled three times with much relief. He attributed the attack to having lain, upon his right side, in a damp bed.

There was scarcely any projection at the spot where the pain and tenderness were experienced. By careful examination several times repeated, I satisfied myself upon the following points.

On the right side of the thorax no vesicular breathing could be heard; and the whole was dull on percussion. On the left side percussion gave a hollow sound, and the respiratory murmur was clear and strong. In the tender spot, an inch and half above the mamma on the right side, a strong pulsation could be felt, and two sounds were distinctly audible, the first of them keeping time with the pulse at the wrist. But there was no bellows-sound. M. Sanson, the celebrated French surgeon, was in this country at that time, and went round with me one day, and examined this patient; and he expressed his opinion that it was not a case of aneurism, because there was no *whiz* or bellows-sound to be heard. Of course his examination was a cursory one, and I merely mention this circumstance to show you what importance is attributed to the presence or absence of a *bruit de soufflet* in such cases. M. Sanson suggested that the heart might be displaced, and pushed over to the right side. However it was clear to me that this could not be the case, because the breathing was deficient, not on the left, but on the right side; and, above all, because the apex of the heart could be both seen and felt beating in its proper situation, in the præcordial region on the left side. Also on the left side, percussion made on the edge of the ribs gave a tympanitic sound, indicating the place of the stomach; on the right a dull sound, pointing out the situation of the liver; so that it was not a case of transposition of the viscera, such as had been found, not long before, in one of my patients. In the course of the disease, a slight bellows-sound did become perceptible over the right mamma, when the patient sat up; but even

then, the natural sounds of the heart, without any morbid quality, could be heard in the natural position of that organ. Œgophony was audible at the back part of the right side of the chest.

This patient had repeated attacks of pain, and dyspnoea, and restlessness, and inability to lie down; and these attacks were always most sensibly mitigated by the application of leeches to the diseased part. By the 11th of October he was so comfortable that he wished to go out; and he went to his master's in Connaught Place.

Two days afterwards, he sent to beg that I would go and see him there. He had brought up, on the preceding evening, during a paroxysm of coughing, about a pint of bright red blood; and he had continued to cough, and to expectorate small quantities of blood. I had him again brought to the hospital on the 14th of October, where he remained, apparently much the same as before he went out. But on the 19th he suddenly expired. The whole duration of his illness had been nine or ten weeks.

We found the heart natural in size and in appearance; the pericardium healthy, and containing no more than the usual quantity of serum. All the cavities were natural in their dimensions, and in the thickness of their walls; and all the valves healthy, excepting one white spot on the mitral valve, which could not have interfered with its motions.

The aorta at its origin was also natural in size; but it began to dilate just before it escaped from the pericardium, and the dilatation continued to the giving off of the left subclavian, where the vessel resumed its proper capacity. The arteries arising from the aorta did not partake of the dilatation; but the sac overlapped and adhered to the external surface of the innominate, for about a quarter of an inch from its origin. This explained a symptom I omitted to mention, viz., that the right radial artery beat much more feebly than the left.

The pouch formed by the aneurism adhered in front, for the space of two inches, to the inner surface of the third rib; and close to the edge of this adhesion, there was a small irregular aperture about two lines in diameter, by which the interior of the pouch communicated with the right pleural cavity. Nearly a pint of loosely coagulated blood was found in that cavity, together with a greater quantity of serous fluid than could have belonged to the coagulum. Just above the adhesion to the rib, the pouch adhered to the substance of the lung, over a space about an inch square; and here the parietes of the artery seemed wholly wanting. This doubtless had been the channel of the copious hæmoptysis a week before his death: and it is interesting to observe that the

opening of the aneurism into the lung was not immediately fatal. The artery was much diseased in the usual manner. The right lung was nearly all of it "carnified" by the compression it had undergone.

If this case had not terminated as it did, no doubt the aneurism would have made its way outwards through the ribs, as happened in the very remarkable specimen before you; in which you see that the sternum and five of the ribs have disappeared before the pressure of an aneurism in the ascending portion of the aorta. Sometimes, the tumors that form in this manner, project and attain the size of the head of a full-grown foetus before they burst.

What can we do in these melancholy cases? Not much. Certain points of practice are so obvious that it is almost superfluous to mention them. I mean the observance of quiet, and the religious avoidance of every thing likely to excite or quicken the circulation: bodily exertion, therefore; straining of all kinds; mental emotion; stimulating food or drink. These are not only likely to aggravate the existing mischief, but are often the immediate causes of the rupture of the aneurism, and of sudden death.

I mentioned, in describing the morbid anatomy of aneurism, that when the diseased vessel began sensibly to dilate, and more especially when it was protruded into a sac or pouch, the blood began to coagulate upon the diseased membrane. And it continues to do so, from time to time, in successive layers, so that upon dividing the aneurismal sac, you will see concentric laminæ of firmly coagulated blood. This is clearly a strengthening of the weak place—a reparatory and compensating process analogous to others which we have already had occasion to notice. And our object, here as in other cases, must be, not to interfere with the natural attempts towards repair, but to assist and promote them, if we can.

This principle has long been distinctly recognised in the treatment of aneurisms that are incapable of relief by surgical means. But it is much to be doubted whether the principle, so sound in itself, has been judiciously followed out. You have probably heard, or will hear, a good deal of Valsalva's and Albertini's mode of treating aneurisms. It was simply that of bleeding the patient repeatedly, and keeping him upon as low a diet as was barely enough to prevent his perishing of inanition. The object of this plan of treatment was to facilitate the coagulation of the blood by diminishing its force and velocity, in the hope that at length such a solid barrier might be built up and organized, as might, in some sort, furnish a new wall to the artery in the dilapidated part. When this object had had the best chance of being accomplished; when the patient had been

so reduced as to be scarcely able from weakness to raise his hand from the bed, to which he was strictly confined; then Valsalva increased his quantity of nourishment by degrees, until the necessary strength was restored.

Now I quite agree with Dr. Copland in thinking that this practice may be carried, and has been carried, to a hurtful extent. He says that he has seen cases "in which aneurismal tumors had existed for some time without any increase, so long as the patient avoided any marked vascular excitement, and continued his accustomed diet; but when repeated depletions, and vegetable or low diet were adopted, great augmentation of the tumor, and fatal results, soon followed."

In truth, we shall perceive reason to expect that this would be the case, when we consider first, that the starving system, and frequent abstraction of blood, diminish the quantity of fibrin in that fluid, and render it more watery, and less disposed to coagulate; and, secondly, that what is called reaction—or a violent palpitating action of the heart—is very apt to follow repeated losses of blood; and this forcible action of the heart must tend rather to sweep away the existing coagula, than to cause an additional deposit.

A more reasonable and hopeful plan of management, therefore, would, in my opinion, be one which should keep the action of the heart gentle and moderate, and the motion of the blood as slow and languid as possible, without impoverishing that vital fluid. We should husband the materials for the repair, and promote the deposit of them where they are wanted. A nutritious but unstimulating diet; perfect repose of mind and body; and a due regulation of the natural functions; with the abstraction of so much blood only as may be necessary to alleviate pain, or to subdue *excessive* arterial action, or to unload vessels which are manifestly oppressed by their contents;—these, I humbly conceive, constitute the most rational means of furthering the endeavours of nature towards a cure. Few cures, indeed, can be hoped for in any way. Yet life may be prolonged in these cases by great care; and the extension of existence even for a month or two, or a week, or a day, may sometimes be an acquisition of the greatest moment.

I have little to say concerning particular drugs. Digitalis may, perhaps, be sometimes of use; and the binacetate of lead is well spoken of by those who have tried it. I have not had sufficient experience of either of these remedies in the treatment of aneurism, to enable me to state anything to you, confidently, in respect to their value.

SOME REMARKS
ON A
RARE FORM OF CARCINOMA.

By THOMAS DORRINGTON, Esq.

(For the Medical Gazette.)

THERE exists a form of Carcinoma, of which there are a few cases on record, that from its rarity is seldom alluded to in systematic works, and that, from its peculiarities, may well claim the attention of the pathologist and practical physician. No attempts have been made, so far as I am aware, to give a detailed account of the complaint; and I believe that any remarks that may have been made upon it, have been suggested more by the peculiarities of the cases to which they have been appended, than by a careful analysis of all the facts that have been recorded respecting it. The importance of this form of disease is however such, both to the patient in regard of his life, and to the practitioner in regard of his reputation, that it would seem to call for more special attention than it has received, particularly as its onset is not attended by symptoms either local or general, that seem to call for any great anxiety on the part either of the sufferer or his attendant, whilst the issue is uniformly fatal.

The essential character of the disease consists in the simultaneous occurrence of carcinomatous deposits of a tuberculous or globose form, sometimes solitary, sometimes aggregated, *under the integuments, and in all or the greater part of the viscera*, a character that may be concisely expressed by the term "disseminated globose carcinoma." My attention was attracted to this affection, by a case that occurred in my own practice this summer, of which I shall give the particulars. My friend, Mr. James Bower Harrison, has also had the opportunity of seeing a case, which corresponded very completely with my own, and he has kindly furnished me with the post-mortem appearances in a letter which I shall herein transcribe. A similar case also occurred in the practice of Mr. Sumner, of Lymm, in Cheshire, of which I have not been able to gain the particulars, further than they are noticed in the following extract, which is taken from a letter written by Dr. Kendrick, of Warring-

ton, to my friend, Mr. James Bower Harrison, who wrote to him on the subject:—"The case to which you allude was under the care of Mr. Sumner, of Lymm. I did not see it until within a very short period of its termination. The disease first made its appearance in the right groin, where it remained stationary during about two years, after which it extended with great rapidity; both externally and internally, the heart itself being extensively affected by it. * * * * * If you will refer to the 32nd number of 'Cruveilhier's Anatomie Pathologique du Corps Humain,' you will find two plates exhibiting a disease nearly approaching to your own, the only difference being in Cruveilhier's being of a melanotic character." Being anxious to ascertain what was known on this subject, I have made a tolerably careful examination of its history, so far as my limited opportunities, arising from the want of an extensive medical library of reference, have allowed me, and believe that the following account of the bibliography of this form of disease is correct, as far as regards our own and French medical literature. Not being acquainted with German, I am ignorant as to whether it has been treated of in that language.

Mr. Abernethy, in his work on Tumors, in 1804, was, I believe, the first to notice this form of cancer, calling it "tuberculated sarcoma." He states it to be an uncommon but very malignant disease, and gives two concisely related cases. His remarks on the complaint are few, and he seems not to have seen much of it. Bayle, in his work on Phthisis, published in Paris in 1810, gives a case which is clearly of this nature, terming it "Union of the Cancerous and Tubercular Phthisis in a person remarkably affected with the cancerous diathesis." It is related merely as an example of one form of phthisis, and seems not to have attracted any particular attention; indeed, there were only three cutaneous tumors present, but they were quite characteristic of the complaint, and stamp it decisively as belonging to the form of carcinoma under consideration. Alibert, in his "Nosologie Naturelle," without apparently being acquainted with Abernethy's work, describes this disease as a *distinct form of carcinoma*, under the name of "globose cancer,"

and assumes the merit of being the first to notice it. Whether Mr. Abernethy considered the affection to be a form of cancer or not is doubtful, since his very objectionable term of sarcoma expresses nothing as to the specific nature of the tumors to which it is applied, and the adjective, "tuberculated," refers merely to their shape; he was, however, aware of the malignant character of the complaint, which is, after all, its most important feature. Alibert seems to have been the first to identify the disease as a distinct form of carcinoma; but when he assumed the merit of being the first describer of the affection, he claimed that which justly belonged to Mr. Abernethy. In the *Nosologie Naturelle* are three cases and a plate of this form of disease, but Alibert's remarks upon it are few and inconclusive. Rayer, in his work on the Diseases of the Skin, was the next to notice this subject; and in alluding to Alibert's cases refers to the same category three others, which he has described under the respective names of "mollusci-form cancer," "leucoid cancer," and "encephaloid cancer of the scalp and pubic region." Cruveilhier, in his great work, "*Anatomie Pathologique du Corps Humain*," has given, in the 32nd Fasciculus, a very full account of a careful post-mortem examination of a case of this disease, with two beautiful plates, most characteristic of the affection. It is much to be regretted that we have not a detailed account of the symptoms in this case during life.

I am not aware that anything has been added to our knowledge of this subject since Cruveilhier's publication, though I am inclined to suspect, from inquiries I have made, that the affection is not excessively rare; indeed, I have heard of one or two cases which have occurred not very far from Manchester, which I believe to be of this character, but which have not been noted down and published.

In the hope that the present paper may lead to more facts on the subject, I have been led to publish my own and Mr. Harrison's case, and to transcribe that of Cruveilhier. I have also given the results of a slight analysis of the other cases which have been recorded; and as this is less complete than I could wish, I may here state that this arises principally from the very sketchy and

cursorious manner in which most of them have been noted down.

Mrs. Massey, aged sixty, a married woman with a family, of naturally a strong constitution and very healthy, underwent for some months considerable fatigue, loss of rest, exposure to wet and cold, and drank freely. Soon after this, and about nine months ago (June 19, 1841), a tumor appeared under the integuments, near the ribs, where they pass off to form the floor of the right axilla. She put herself under the treatment of a notorious bone-setter in the neighbourhood of Manchester, commonly named "the Oldfield-lane Doctor," who blistered it, &c. Her general health soon began to suffer much, and she became gradually weaker, and lost her appetite. About six weeks ago, she observed a number of loose tumors under the integuments of the trunk of the body, which did not seem to have attracted her notice till they existed in considerable numbers. On the 19th June, 1841, she put herself under my treatment. The original tumor, near the axilla, had all the appearance of an indolent enlarged lymphatic gland, being quite moveable under the skin, and free from pain, except when squeezed. The other tumors were very numerous, and generally dispersed over the surface of the trunk, being present equally on the front, back, and sides; the limbs were free from them. They varied from the size of a pea to that of a walnut, were loose under the skin, and various in shape, some being solitary and globose, others lobulated, as though many were aggregated; they were free from sensibility, except when very smartly squeezed, when some of them would break down and disappear amongst the cellular tissue in which they were situated. Some of them, after arriving at a certain size, disappeared spontaneously, leaving, in the situation which they occupied, a dark, ecchymosed spot, resembling the effects of a bruise, which went through a similar course, becoming yellow, and then disappearing. Some of these tumors occasionally became bluish or livid, the skin over them becoming thin and giving way, and a few drops of blood flowing, and then concreting into a dry clot on the skin. The tumors generally had no colour, the integuments merely seeming irregular from their presence

beneath. Besides these, there co-existed a number of different tumors, which seemed to exist in the substance of the skin, and were quite superficial and raised above its general level. In size, they varied from that of a pin's head to that of a split pea; in colour they were purplish; in character something between a wart and a mole; and most of them were persistent during the whole disease, whilst others seemed to form a small ecchymosis under the cuticle, and then disappear.

Her general symptoms were great debility, considerable emaciation, loss of rest, profuse sweating in bed at night, complete loss of appetite, high-coloured urine, a decided tendency to constipation, tongue red, shrivelled, and dryish, pulse 120, small and feeble, deep-seated pain in the loins and lower extremities. I was much puzzled for a prescription, and ordered as follows:—

℞. Potassii Iodidi, grs. xxiv.; Træ. Gentianæ Co. ʒss.; Aquæ ad ʒviij.; M. capt. ʒj. ter in die.

℞. Pil. Rhei Co. grs. x. Ft. pil. ij. omni nocte sumend.

In the course of a week I found that the pulse and increasing debility called for more decided tonics, and I ordered the following mixture. The bowels were so slightly moved by the compound rhubarb pill, that I substituted the following powders, and added some containing opium to produce sleep:—

℞. Quiniæ Disulph. grs. xxiv.; Acid. Sulph. Dil. ʒiss.; Træ. Hyos.; Træ. Lavand. Co. aa. ʒij.; Aquæ ad ʒviij. M. capt. ʒj. ter in die.

℞. Pulv. Jalap. Co. ʒss. omni alterna mane sumend.

℞. Pulv. Opii, gr. j.; Pulv. Glycyrrhozæ grs. vj. M. ft. pulv. omni nocte hora somni sum.

She soon began to complain of nausea at the sight of food, and this shortly became absolute and severe vomiting, especially after eating or drinking. More tumors kept appearing; and some of these, though few in number, were on the extremities. She began to have great faintness on attempting to rise from bed, to which she now quite confined herself; her urine became very scanty, and deposited a brown sediment on standing. Her countenance became very yellow, and she emaciated rapidly.

All medicines were now omitted except opiates.

July 13th.—She is now excessively emaciated; her eyes are sunk, and her countenance extremely sallow. She constantly sweats most profusely, and the body is covered with sudamina. She takes nothing but a little tea, and the vomiting continued at intervals till yesterday morning, when it ceased. She is very feeble, and becomes very faint when moved. Pulse 120, small and weak. She coughs a little occasionally.

16th.—Goes on emaciating and sinking. Has vomited once only since the last note. Has hiccupped frequently during the last two days, and has slight œdema of the right leg.

19th.—She died at half-past two, A.M. She had bloody stools the last two or three days, which were of a coffee-ground hue.

Autopsy thirty-two hours after death.—The body was much emaciated and sallow, and the tumors studding its surface were perhaps 200 in number.

Upon reflecting the integuments, the tumors were found situated in the subcutaneous cellular tissue; some of them, however, adhered intimately to the skin, but were formed quite independently of it. Similar productions were found, pervading most of the viscera.

Their seat was mostly in the cellular tissue; sometimes in the substance of glands, and amongst muscular fibre. Their shape was globular when not compressed; they were sometimes solitary, at others collected into clusters, and united by cellular tissue.

The consistence and colour of the tumors varied in proportion to their age. Some were almost cartilaginous; some rather softer and yellowish in their centre, and of these a few contained gritty matter: others were almost medullary, with a spot of ecchymosed blood in the centre, or small ecchymosed spots throughout; others softer still, being a mixture of medullary matter and blood, not unlike strawberry cream. Some consisted of a sort of cyst of condensed cellular tissue, that contained a brownish chocolate or blackish-brown substance, of the consistence of curds; others were still softer, consisting of a sac full of muddy, thin, reddish, chocolate fluid (doubtless principally blood); and, lastly, there were observable in situations where tumors had been patches of ecchymosed blood, and near these were

generally other tumors. Their colour was various; whitish-yellow, grey, bluish, brown, red, chocolate, and blackish.

The tumor, which had first attracted attention under the integuments near the floor of the axilla, was a lymphatic gland, about the size of a small walnut, connected with four or five others more deeply seated in the axillary cavity. They all consisted of a mass of brown matter, of the consistence of soft putty, intersected here and there by what seemed the condensed remains of old lymphatics (cellular bands, as it were). These were the largest sub-integumental tumors, and some were as small as a pin's head.

Thorax.—The cavity of each pleura contained about eight ounces of bloody serum. There were many tumors in the cellular tissue of the anterior mediastinum; a collection of them, of the size of a very large walnut, containing in its centre about two drachms of turbid, reddish, chocolate fluid, was situated anteriorly to the ascending aorta.

The surface of the lungs, as well as the substance, was studded with them here and there; and in one or two of the larger tumors in the lung there was not only central softening but veritable pus, so far, at least, as could be affirmed from mere inspection. The lungs were in parts emphysematous, but in other respects normal.

The pericardium contained about 3iss. of bloody serum.

There were tumors under the serous membrane of the outside of the heart, in the muscular substance, which was pale and flabby, and under the serous membrane of the auricles and ventricles. The organ was literally studded with them, but they were smaller and firmer here than elsewhere.

The Abdomen.—The cavity of the peritoneum contained about 3xvj. of bloody serum. The omentum was adherent to the anterior part of the inlet of the pelvis, and was nearly black in colour, as also was the peritoneum lining the abdominal muscles opposite to it. This appearance was, I presume, a form of "spurious melanosis." Both the greater and lesser omentum contained similar tumors to those before described. One or two of these only were visible on the whole course of the intestines. The liver contained in its interior one or two small tumors, and

had some eight or ten on its surface; in other respects it was normal. The spleen was normal. The pancreas was enlarged and degenerated into a firm cartilaginous mass, being somewhat lobulated, and having in parts several spots of ecchymosis. It was so large as to push forward the lesser omentum. The kidneys, in other respects normal, contained a few tumors in their cortical portion, and there were many in the cellular tissue around them. There were three or four small tumors, one in a very advanced state of softening, under the mucous membrane of the bladder; the soft one was chocolate in colour, and the mucous membrane over it was softened, and easily abraded from its surface. Just behind the right foramen thyroideum was a tumor of the size of a goose egg, soft and fluctuating, under the peritoneum, and adherent to the lower border of the great omentum. This contained muddy, reddish, chocolate fluid, in a sort of cyst. The right ovary was enlarged to about the size of a large orange, and situated in the pelvic cavity, behind the uterus, adherent to the peritoneum lining this, at one point. It was full of serous cysts, as also was the other ovary, though of normal size.

The Brain.—This was throughout in a pulpy softened state. In the left anterior lobe was found a clot of blood, of the size of a pigeon's egg. Other clots of blood were found in other parts, which seemed to have originated in depositions of the same nature as those in the other parts of the body. One in the cerebellum was of considerable size.

The membranes of the brain were normal.

The following letter from Mr. James Bower Harrison, surgeon of Broughton, near Manchester, has reference to a case similar to the one above detailed, which happened in the practice of Mr. Yorke Wood, of Bury, at that time physicians' clerk in the Manchester Royal Infirmary. Mr. Wood accompanied Mr. Harrison to see my patient during my temporary absence from Manchester, when I left Mr. H. in charge of her:—

"My dear sir,—I am sorry to say that I find my friend, Mr. Wood, has not preserved any record of the case to which I alluded. He was quite satisfied, however, on visiting Mrs. Massey

with me, that her disease was of the same description, and only differed in the extent of its progress. As far as Mr. Wood can recollect, his patient was about 60 years old. When he first saw him, the man was complaining of pains in different parts of the body, but principally in the right shoulder, which, at the time, was supposed to be of a rheumatic nature. He was of rather a sallowish complexion, but not of a particularly cachectic appearance. About eight weeks before his death, he directed Mr. Wood's attention to a number of subcutaneous tumors which had made their appearance on the surface of the body, and more especially about the axillæ and sides of the chest. Many of these tumors disappeared spontaneously, leaving bloody extravasations; and in most cases they could be broken down by pressure with the fingers. The man complained of lassitude and debility, with loss of appetite, and other symptoms of general derangement.

"I am able to supply, from my own notes, a brief account of the autopsy, at which I was present.

"*Sectio cadaveris, March 28, 1839.*—The chest and trunk were covered with tumors of various sizes, which bore some resemblance to enlarged lymphatic glands, some being solitary, and others aggregated and connected together by cellular tissue. Many of these tumors were surrounded with patches of ecchymosis, especially those which had softened and given way. On a section being made, they were found to consist of a white schirrous-looking matter, the interior being of a more fluid consistence, and generally of a bloody character. In some instances they contained fluid blood, and in others a mixture of blood with the softened matter of the malignant deposition. The tumors did not display any of the fibrous bands which are said to characterise ordinary schirrus, nor were they of so firm and resisting a texture.

"On opening the chest, tumors of the same description were discovered in the interior. One large mass was found absolutely to penetrate the parietes of the thorax, so that the intercostal muscles in the intervening space, and even the ribs themselves, had partaken of the same degeneration. They also occupied the pleuritic lining of the chest, and were scattered in various places on the surface of the thoracic viscera.

Tumors of the same nature were found in the cavity of the abdomen, on its peritoneal surface; also, on the lesser omentum, and on the mesentery. The pancreas had acquired the same peculiarity of structure, and had formed a hard mass in the curvature of the duodenum. This had evidently impeded the passage of the bile, and the gall-bladder was consequently large and distended. On making a section of the liver, circular masses of the same nature were observed, from the size of a shilling to that of half-a-crown. The mucous membrane of the small intestines presented in places evidences of a similar deposition. In almost every instance the tumors were connected with, or adjacent to, bloody extravasations.

"With the hope that these few particulars may be sufficient to satisfy you of the identity of the complaint, I remain, dear sir,

"Very sincerely yours,

"JAS. BOWER HARRISON."

"*Thomas Dorrington, Esq.*"

The following account of the *post-mortem* appearances, in a person who died from this complaint, is so complete, and they so strongly resemble those in Mrs. Massey's case, that I offer no apology for transcribing them from the 32d livraison of Cruveilhier's great work on Pathological Anatomy; the more so, because the work is in the hands of but few, owing to its expensive character. The plates, to which the following description refers, are most characteristic of the complaint, and beautifully coloured:—

"*Cancer mélanique tuberculeux du tissu cellulaire sous-cutané, des muscles, du tissu cellulaire sous-péritonéal, des poumons; cancer du sacrum. Carie des vertèbres lombaires.—Foie gras.*

"Une jeune femme, d'une trentaine d'années, entre à l'Hotel-Dieu dans un état d'affaissement porté au plus haut degré, et meurt le lendemain du jour de son entrée. M. Honoré voulut bien mettre son corps à ma disposition pour recherches d'anatomie pathologique.

"Pl. 3. (demi-grandeur). La région antérieure du tronc présente une multitude de tubercules et de tumeurs, dont les uns paraissent développés dans l'épaisseur de la peau, dont les autres sont sous-cutanés, avec ou sans adhérence à la peau qu'ils soulèvent. Le

plus grand nombre de ces tumeurs et tubercules offrent une couleur bleuâtre. Quelques-uns présentent une fluctuation extrêmement prononcée. Du reste, tous ces tubercules et tumeurs sont limités à la région antérieure du tronc ; un certain nombre se voit à la partie inférieure du con, quelques-uns aux membres supérieurs, d'autres à la partie supérieure de la cuisse droite. Quelle était la nature de ces tumeurs ? J'hésitai un instant, à raison de l'aspect bleuâtre entre le cancer mélanique et les tumeurs érectiles ; mais si quelques doutes peuvent exister pour quelques-unes d'entre elles, pour celles qui étaient molles et fluctuantes, la dureté du plus grand nombre faisait présumer leur nature mélanique.

"Pl. 4. (grandeur naturelle). En effet ce sont de tubercules cancéreux de volumes divers, depuis celui d'un grain de mil, et au-dessous jusqu'à celui d'une pomme.

"Les points noirs ou gris qu'on voit çà et là sont des tubercules à l'état naissant. La couleur noire est donc primitive ; elle n'est nullement consécutive. Un certain nombre des ces tubercules s'enlève avec la peau bien qu'ils ne soient pas formés aux dépens de la peau elle-même, mais bien accolés à sa face interne. C'est ce qui se voit parfaitement sur la portion de peau renversée *PR.* Il est des tubercules développés dans les divers plans du tissu adipeux sous-cutané et du fascia superficiel. Il en est d'autres développés dans l'épaisseur des muscles, les uns faisant saillie du côté de la couche superficielle de ces muscles, les autres ensevelis dans leur épaisseur, d'autres enfin font saillie du côté de leur face profonde. Des tumeurs très considérables sont développées dans l'épaisseur ou à la circonférence des glandes mammaires. Ces glandes mammaires sont atrophiées réduites à leurs canaux excréteurs *VL.*, dont la dissection a été faite avec beaucoup de soin.

"Plusieurs petits tubercules miliars, les uns de couleur noire, les autres de couleur grise, sont développés aux dépens des flocons adipeux sous-cutanés ; il en est qui occupent le centre de ces flocons ; mais la plupart occupent quelques-uns des points de leur circonférence. C'est surtout dans le tissu cellulaire sous-cutané de la partie supérieure de la cuisse qu'abondent ces dégénérations par points ou tuber-

cules miliars, des flocons graisseux. Sous le rapport de la couleur, ces tumeurs présentent un grand nombre de différences, lesquelles me paraissent se résumer dans les nuances suivantes qui sont assez exactement, sauf peut-être la couleur lie de vin, toutes les variétés de couleur des truffes ; 1^{mo}, couleur grisâtre ; 2^o, couleur café au lait ; 3^o, couleur chocolat ou couleur de bistre ; 4^o, couleur lie de vin ; 5^o, couleur ardoisée claire ou foncée ; 6^o, couleur noire. Ces diverses couleurs sont tantôt isolées, tantôt réunies dans la même tumeur.

"*Consistance.*—Plusieurs tumeurs sont molles, quelques-unes fluctuantes, et contiennent à leur centre du sang lie de vin. Dans plusieurs le sang est enkysté ; j'ai trouvé deux kystes dans le même tumeur. D'autres tumeurs sont molles parce qu'elles sont remplies de suc cancéreux réuni en foyer ou infiltré ; la plupart de ces tumeurs sont dures, et parmi elles, on est tout surpris d'en trouver qui donnent par la pression une quantité énorme de suc cancéreux.

"Indépendamment de cette masse innombrable de tumeurs sous-cutanées, j'ai trouvé sous le péritoine un assez grand nombre de masses mélaniques. Le foie en était exempt, mais il était jaune et avait passé complètement au gras. Rien à la rate. Plusieurs masses mélaniques adhéraient à la racine du rein ; plusieurs se voyaient dans le tissu cellulaire qui entoure cet organe. Un grand nombre de tumeurs mélaniques se rencontraient le long des artères et veines iliaques primitives, le long des artères et veines hypogastriques. Dans l'excavation du bassin, tumeur encéphaloïde énorme, au devant et aux dépens du sacrum. Cette tumeur remplit l'excavation, et cependant sous les organes pelviens sont dans l'état le plus parfait d'intégrité. Dans le grand bassin, foyer purulent très considérable sous l'aponévrose iliaque. Ce foyer a sa source aux dernières vertèbres lombaires, qui sont cariées ; il s'étend jusqu'au petit trochanter, dans la gaine du *psoas*, en dehors et au-dessous des vaisseaux cruraux.

"*Poitrine.*—Grand nombre de petites tumeurs mélaniques grises, occupant la surface du poumon. Masse mélanique du volume d'une pomme ordinaire, tuberculeuse, lobuleuse, adhérente au bord antérieur poumon gauche."

The above cases are sufficiently cha-

racteristic of the disease; but I think that the subject will well repay our consideration of it under the form of an analysis of all the cases that I have alluded to in this paper, so far at least as they are available for such a proceeding. This plan, though it cannot be carried out perfectly, owing to the very cursory way in which many of the cases are described, will, nevertheless, lead to a certain degree of precision in our information on this affection.

[To be continued.]

CONTRIBUTIONS
TOWARDS AN
ESSAY ON STRABISMUS.

By C. RADCLYFFE HALL,
Manchester.

(For the London Medical Gazette.)

[Continued from p. 629.]

PART III.

Double vision; associated movements of the eyeballs; identical parts of the retina; direction of objects, &c.

IN the natural state, the eyes are so directed towards an object that oblique rays from any given point impinge on the outer portion of one retina, and on the inner portion of the other, whilst direct rays fall on the centres of both retinæ at the same instant. The normal association in the movements of the eyes is such as invariably to maintain this relationship. Hence the hypothesis of identity of points in the two retinæ, especially insisted on by Müller. The outer portion of one retina corresponds with the inner portion of the other, and *vice versâ*; the centre of one retina also corresponds with that of the other, and, for the sake of brevity, these parts are termed identical. An object presented to identical points, though seen by two eyes, appears single; but if the rays impinge on non-identical points, double. Hence the manifest importance of the consent between abduction of one eye and adduction of the other, in order to direct identical portions of the retinæ towards the same object.

Mr. Wheatstone's experiments with the stereoscope are considered to have proved, 1st, "the incorrectness of the hypothesis that objects can be seen single only when images fall on iden-

tical points of the two retinæ," and 2dly, that "similar pictures falling on corresponding points of the retinæ may appear double, and in different places; and consequently that there is *no necessary physiological connection between the corresponding points of the two retinæ.*"*

The first of these conclusions is deduced from an experiment which, if, without the use of Mr. Wheatstone's ingenious instrument, I understand it correctly, is similar to the following:—Place any small cube, a square inkstand for instance, at a short distance before the eyes: four surfaces are seen; two lateral, an anterior, and a superior. Close one eye, and the lateral surface of the same side disappears, and *vice versâ*.

This only proves that one eye sees a part of the object which is invisible to the other, and that the mind combines the sensation of one retina with that of the other, so as to suggest the idea of a single object. But the images of the same part do not fall "on identical points of the two retinæ." The image of the lateral surface seen by the left eye is formed on the outer portion of its retina, and that of the lateral surface seen by the right eye on the outer portion of the right retina; these being *non-identical* points we should expect *two* sensations to be recognised. Those parts of the object of which there are the same images presented to each eye cause *two* impressions, but as they are on *identical* points of retinæ, the object is single; the rest of the object being seen by only one eye at a time, cannot be otherwise than single. The images common to both eyes, and those peculiar to each, are judged to represent but a single object because of their relative position on each retina, the one image merging in the other. I conceive, therefore, that this experiment is an argument in support of the hypothesis that objects, *when they present the same parts to both eyes at once*, can be seen single only when their images fall on identical points; and when they present one part to one eye exclusively, and another part to the other, these are seen as separate images by points which are *not identical*, and consequently, must appear single.

That identical points in the two eyes may convey distinct impressions

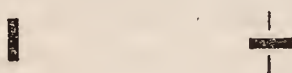
* Baly's Müller, p. 1206.

at the same time, is easily demonstrated. Look at the two letters

A. B.

they appear single, because their images impinge on identical points. Close either eye and the appearance is unaltered—the open eye equally conveys a single image. Place the hand, edgeways, between the two letters, and bring the face near to the hand. A. disappears on closure of the left; B. on closure of the right eye. The two letters fall on identical points, but only one is seen by each eye. Look earnestly with both eyes, and in a short time the two letters intermix, appear one in front of the other: if the right eye is superior in visual power, B. is most clear and defined, and appears uppermost; the least distinct letter appearing the most distant. Should the visual power of the two eyes be precisely equal, the letter which is in the shade of the hand will seem the farthest off, because its image is the faintest. This proves that *different* images at the *same distance* impinging on identical points of the two retinæ, may suggest the idea of *different* distances.

The second conclusion from Mr. Wheatstone's experiments, that "*similar* pictures falling on corresponding points of the two retinæ may appear double, and in different places," may be correct, but the fact would be the exception to the rule. Place the hand



between the two figures, and converge the eyes until the broad vertical figure occupies the identical spot on the left retina, to that which receives the image of the narrow vertical line on the right retina. The two vertical lines seem to approach nearer and nearer until the narrow line is lost in the broad one, and a *single black cross* is seen. This proves that similar images on identical points are *generally, at least*, perceived as single.

Look at the letters A. B. as above, but without the hand being placed between them, and converge the optic axes until the two letters flow together. These now seem four distinct images, a mixture of A. and B., forming two in the centre; and the letters themselves more to the sides than their real situation, thus—

A. Æ. B.

Close the right eye, the lateral A. and the central B. disappear; close the left only, and the lateral B. and central A. vanish. This proves that when A. and B. fall on identical points of the retinæ, they are mixed into one image; but as the points covered by the image of A. cannot, from the difference in the shape of the two letters, be identical with those covered by that of B., the outline of the two letters is still maintained, whilst where the lines of the letters cross each other, and where, therefore, the images must be on identical spots, but one sensation is caused, *i. e.*, but one common object is seen. The lateral B. is seen by the outer portion of the left retina; the lateral A. by the outer portion of the right retina; these parts being non-identical, each conveys a *distinct* image to the sensorium.

Converge the eyes towards two letters accurately alike in shape, as

A. A.

three images only are perceived, two lateral A's. and one central A., from the images of the letters covering exactly identical points.

The occurrence of double vision on pressing one eye out of accordance with its fellow, seems inexplicable, unless we admit that it is in consequence of the images being formed for the moment on non-identical parts of the retinæ.

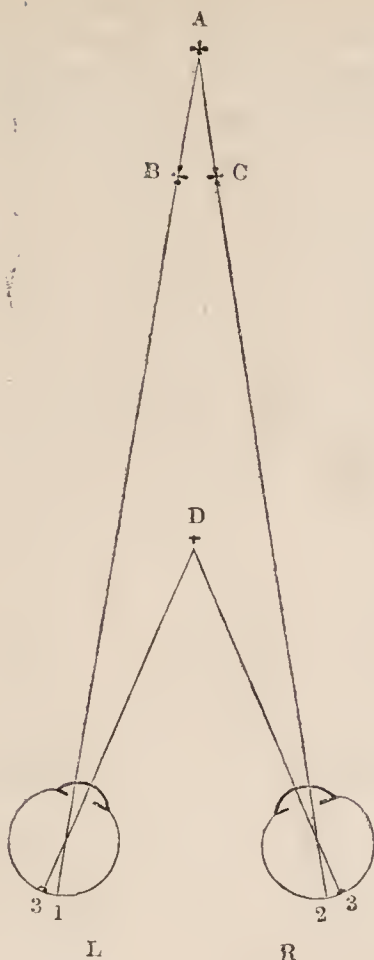
I shall take it for granted, then, that when the same part of an object is seen by both eyes at once, it is essential to correct and single vision, that the images be formed on corresponding points of the two retinæ.

It results, that any departure from that accordance in the axes of the eyes which allows the identical points of one to correspond in direction with those of the other, will occasion double vision.

To understand the phenomena of double vision, it is necessary to investigate the mode by which we are enabled to judge of the situation of objects.

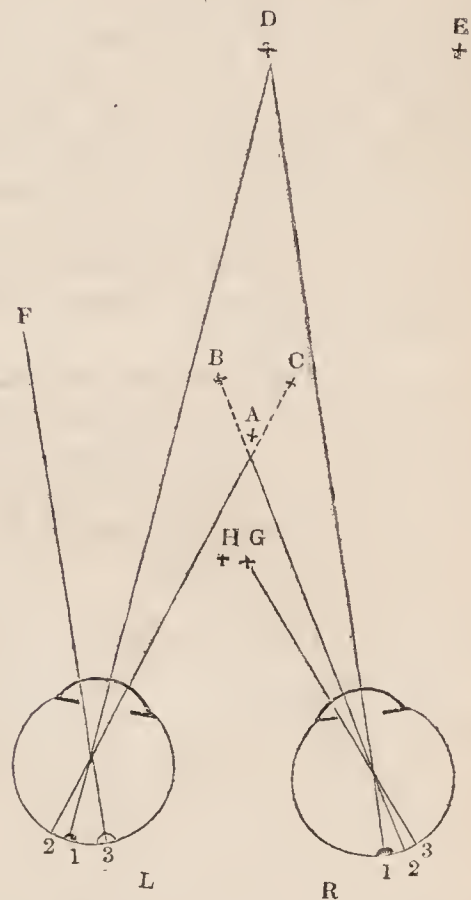
If the eyes are converged so that their axes meet at a near object D. (Fig. 1), that is seen single, because the images are formed on the retinal centres 3 3, but a distant object, A., if noticed at all, appears double B. C. The reason is that the rays from A. to L. impinge on 1, those from A. to R. on 2, both points *internal* to the optic centres, and

FIG. 1.



but always the same under the same circumstances. To fix the centres of vision upon A., the eyes must be everted until the lines from A., which now impinge on the inner portions of the retinæ (viz. L. 1, and R. 2), fall on the optic centres 3, 3; hence, when the mind takes cognizance of an impression made on L. 1., it conceives the object to lie to the *outside* (B.) of the axis of vision (3 D.), since that axis has to be directed *more outwards* by muscular agency in order to see the object with distinctness. If this be true, we judge of the situation of an object by the relative position which its retinal image bears to the centre of vision.

FIG. 2.



being consequently non-identical, these convey separate sensations, and a double image of A. results.

Each eye perceives the image on its own side; thus, on closing L., B. disappears; on closing R., C. becomes invisible. This agrees with the "law of visible direction," which assumes that objects are presumed by the mind to lie in the direction which a perpendicular line, if produced from the point of retina on which the impression is made, would take. In other words, as a perpendicular line from any point of the retina *internal* to its centre would be directed *outwards*; *external* to the centre, *inwards*; *superior* to the centre, *downwards*; *inferior* to the centre, *upwards*; so an impression made on the inner part of the retina is judged to come from an object on the outer side; on the upper portion of retina from an object below, and so on. It is not difficult to comprehend how the mind becomes so educated as to appreciate instantaneously and instinctively the real direction of objects; since to view them accurately, experience teaches that, for an image on one point of the retina the eye must invariably be turned in a given direction, differing, in every instance, as the situation of the impression on the retina varies,

If, on the other hand, the eyes are adjusted for a distant object, D. (Fig. 2), a near object (A.) appears double, because its images are formed external to the optic centres on non-identical points. Each eye, however, in this case, perceives the shadow which is on the opposite side; thus, on closing R., the shadow B. disappears; on closing L., that at C. This accords with the rule above given. A. L. falling on the retina at 2, *external* to the centre, is supposed by the mind to proceed from the *inner* side, and is therefore referred to C; whilst the line A. R., also impinging on the *outer* part of the retina 2, is presumed to have them in one

direction B. A. The lines of direction are imaginary and erroneous in this instance, and would lead the finger wide of the object; but the impressions which give rise to them are real and distinct on each retina. To view A. distinctly, the optic axes must be simultaneously turned inwards, *i. e.*, the eyes must be mutually converged until the lines A. L. and A. R. impinge on the identical points 1 1, the centres of acute vision.

We may thus give another expression to the law of visible direction, viz., an object is judged to be in that direction towards which the optic axes would require to be moved in order to see it most distinctly. If we assume that a certain movement of the eyeball follows a certain impression on the retina, the direction of the movement varying with the difference in the situation of the image upon the retina, we shall better comprehend that unity of action which is so admirable in its design and important in its results.

Of the facts I have mentioned, any person with healthy organs of vision may convince himself.

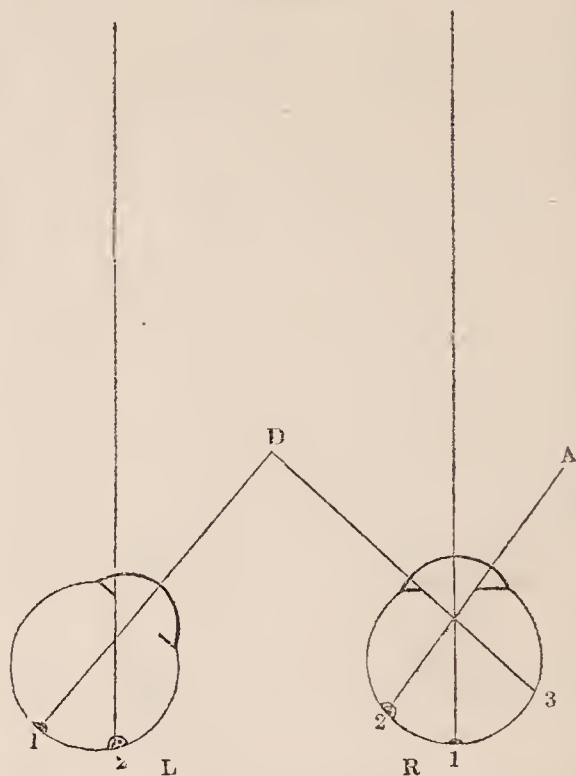
It was necessary so far to examine the physiological hypothesis of identical parts in the two retinae, and the phenomena of diplopia in healthy eyes, before investigating the conditions of the connection of double vision with strabismus.

Diplopia occurring in one eye generally depends on some disorder of the refracting media, or on cerebral disease, and is perfectly distinct from the same affection arising from a want of coincidence between the two eyes.

At the commencement of distortion of one eye, or during the persistence of a temporary, or intermittent squint, there is double vision from the images being formed on non-corresponding portions of the retinae. The centre of that part of the retina of the distorted eye which is constantly most exposed to the influence of light, becomes identical in function with the original centre of the straight eye: and thus in the squinting eye there is an acquired centre of vision which corresponds to the vertex of the other eye, and the movements of the two are associated in obedience to this new relationship. The remainder of the retina acquires a correspondence befitting its altered relative position with respect to the

other eye, and thus the direction of objects seen by the strabismic eye, if appreciated at all, is judged of according to the situation of the retinal image as regards the *new* centre of vision.

FIG. 3.



In simple convergent strabismus of the left eye (Fig. 3), the almost parallel rays of distant objects impinge on 1., the natural centre of R., but on 2., a spot much internal to the original centre of L., which is at the vertex 1. This spot 2. becomes the acquired centre of vision of L., and is so moved as always to correspond in direction with 1., the original centre of R. The two points are now identical, though differing greatly in visual power. Hence, if the strabismic eye is moved from its inversion, the other becomes inverted so as to maintain the accordance: thus, let R. (Fig. 3) be now considered as the strabismic eye which has been everted until it is straight, then 2. being its acquired centre of vision, 2 A. will be the line of its axis of vision (though not the axis of the eyeball): with this the natural axis of the good eye, L., must correspond, and L. is therefore moved until 1., its original and true centre of acute vision, is directed in the line 1 D., which is parallel with 2 A. of R.; and thus, in appearance, for the instant, the better eye becomes the squinting one. This is the position when a near object (D.) is viewed. The axis of the better eye, L., is made to bear upon the object D. in the line 1 D., whilst as it is impossible so far to

increase the inversion of R. (the strabismic eye) as to bring its acquired centre, 2., to bear upon D., the right eye is abducted as far as, or beyond, the central position of the cornea. The rays from D., supposing the cornea of R. to be central, would impinge upon 3 R., which being non-identical with 1 L., double vision should result. And when a squinting person is desired to notice with attention, there sometimes is a confused second image. But this is an exception to the rule, for generally the mind only attends to the sensation of the good organ (L.) We must not ascribe this effect of habit to any supposed want of harmony in the focal adjustment, for it seems improbable that the enfeebled strabismic eye ceases to be adjusted in accordance with its fellow, since, were R. adjusted for distant objects, when the mind wished L. to inspect a near one, (D.), vision might be more interfered with than if R. also were, by adjustment for a near object, prevented from distinguishing far ones, whilst the distortion precludes its direction to near ones.

A familiar illustration of the power we possess of so isolating the attention as only to take cognizance of the impressions made upon one retina, though both are affected, is instanced in the use of the microscope, where one accustomed to its employment sees only with the microscopic eye, though the other may be open at the same time. The less accustomed require to close the unoccupied eye; shewing the effect of habit in enabling us to disregard the impressions of one retina, and to attend exclusively to those of the other.

Conversely, the influence of habit in permitting us to notice with accuracy the impressions of the two retinæ at the same instant, is illustrated by the use of the camera lucida, where the artist, with one eye, looks at the pencil with which he is tracing a copy of the image depicted in the other.

In cases of luscitas, in which the affected eye, from its fixity, cannot be accommodated to the movements of its fellow, the double vision, which at first occurs, gradually ceases. Not because the distorted eye is no longer sentient, for, on closure of the other, sight is found to remain; but because the physiological identity of the two retinæ from disuse has disappeared in one,

and the sensorium has ceased to attend to the impressions which this conveys.

In divergent strabismus, though one eye is always distorted, it still maintains one uniform relative direction with its fellow, and thence there is always an accordance preserved between the acquired centre of one and the original centre of the other, just as in the convergent variety.

In double strabismus, each eye acquires a new centre of vision, but the two correspond in the two retinæ, and the remainder of each retina also acquires a new relative correspondence, so that both eyes are moved harmoniously, in such a manner as to permit the new centres *to be directed together* towards the object of attention; or, if that cannot be effected, one eye is moved away so as to prevent it from seeing the object. The difference between double and single convergent strabismus is, that in the former, when one eye is much inverted, the other is *less* everted, because, as the acquired centre is more internal than in a sound eye, a less degree of eversion will suffice to prevent the rays of the object from impinging upon it.

From considering that, in strabismus, "the squinting eye in general does not co-operate in vision," Professor Müller concludes, "the accordance of the identical points of the two retinæ is, therefore, an *innate* property, and *never undergoes any change*. The eyes may be compared to two branches with a single root, of which every minute portion bifurcates so as to send a twig to each eye." If the foregoing remarks be correct, this view of Müller must be erroneous; and that such is the case will, I think, further appear from an examination of the phenomena presented *after* the operation for strabismus.

The facts may be thus enumerated:

1. Single convergent strabismus.—Vision single. The operation: *both eyes perfectly parallel*. Vision double, the shadow—for the second image is usually so faint as to merit that designation—appears on the *opposite* side of the object.

2. An apparently similar case. After the operation the shadow seems to be on the *same* side of the object as the eye which has been operated on.

3. As the object is brought nearer to the eyes, the shadow approaches the

object until the two coalesce, and there is single vision. If the object is approximated still closer, the shadow reappears, but on the contrary side of the object.

Let L. (Fig. 2) represent the strabismic eye after the operation. Both eyes are equally converged towards the object D. By R. the object is seen in its true situation, viz., in the line of the optic axis R. 1 D., because the rays impinge upon the centre of the retina; but L., from its previous obliquity, has acquired a new centre of vision, L. 3: L. 3 then corresponding in function to R. 1, to produce single vision L. should receive rays in the direction F. 3, at the same time that R. receives them in the line D. 1. This can only be effected by keeping L. stationary, and inverting R. until 1 (its visual centre) bears upon F.; when this is done the object appears single. This is actually found to be the relation when the patient is desired to look at an object a few yards off, *so as to see it single*: in other words, there is a momentary return of the squint.

As L. 3, the spot which used to correspond in direction and function with R. 1, has not yet lost its peculiarity, the mind judges of the direction of an object seen by L., by the position of the image on the retina, in reference to the acquired centre (3). Although, therefore, the rays from D. impinge on 1, the actual centre of the retina, yet as this is *external* to the *acquired* visual centre, the object is supposed to lie towards the *inner* side: thus an object at D. would be seen at its proper situation by R., whilst by L. it would be referred to E.; for what I have presumed to be the law of direction in healthy eyes, equally obtains in strabismus, except that the situation of the centre of vision is changed in the distorted eye.

The more distant the object, the farther does the shadow appear from it. In proportion as D. (Fig. 2) is approximated to the eyes, L. and R. converge, and consequently the line D. 1 L. will fall nearer to 3; and as the presumed distance of objects in the same plane bears a direct ratio to the distance of the image from the visual centre, the nearer the line from D. approaches 3 L., the nearer will the shadow E. approach to D. But the eyes do not converge equally; L. is the most inverted, until the line D. L. impinges on 3, at the

same time that D. R. falls upon 1. As D. is brought nearer, L. is converged, but R., by the action of its rectus externus, is carried out of coincidence with its fellow, until the direction of R. is straight, and that of L. obliquely inwards. For the instant, there is a squint of the left eye (as in Fig. 3). There is now single vision; the shadow which appeared at the opposite side of the object, having approached gradually nearer and nearer until it is now lost in the object, of which the images at this moment are formed on identical points, viz., the natural vertex of one retina, and the acquired centre of the other.

L., however, cannot be inverted further. On a closer approximation of D., from being the most inverted, L. becomes nearly straight, whilst R. is directed inwards, constituting a squint of the right eye. There is now, again, double vision, but the shadow appears on the *same* side as the eye which has been operated on. But this second occurrence of diplopia is produced only when the left eye is capable of directing its acquired centre towards the object, at the same instant that the right eye is so much inverted as to admit rays from the object, but only to a part of the retina *external* to the visual centre. The shadow belongs now to the *right* eye, though, from appearing to lie towards the inner side, its imaginary situation is in front of the *left* eye. The moment that the object is so close that its rays cannot impinge at all on the acquired centre of L., that eye is turned away, and does not see the object at all, whilst R. is correspondingly inverted; and as long as a few rays can penetrate to *its* retina, there is once more single but dim vision.

On closure of L. (the previously squinting eye), when there is double vision of distant objects, and on closure of R., when the object is close, the shadows disappear, proving the facts to be as above.

It has been assumed hitherto, that the acquired visual centre of the strabismic eye has occupied a place *internal* to the retinal vertex: but now let us suppose it to be *external*.

Let 2 R. (Fig. 2) be the *acquired* centre of the strabismic eye, identical in function with 1 L. After restoring the parallelism of the eyes by an operation, if both are equally conveyed

towards D., the line D. L. impinges on I, the true centre, and is seen correctly; but the line D. R. falls upon the spot I R., though *naturally* the centre lies *internal* to the acquired centre of vision (2 R.) The right eye having been accustomed to judge of the situation of objects, from the position of the image on the retina, in reference to the spot 2 and not I R., D. is supposed to lie to the *outer* side, and appears at E., *i. e.* on the same side of the real object as the eye. As the object is brought nearer, the right eye is more inverted than the left, and as the line D. R. passes from I towards the point 2, the shadow approaching nearer and nearer to the object, until, when the line from D. impinges exactly upon 2 R., at the same time that the line D. L. falls upon I L., there is no shadow at all, and the object appears *single*. At this moment, from L. being less inverted than R., there is convergent squint of the right eye. If the object is approximated still nearer, the shadow re-appears, but on the *opposite* side of the object. R. being incapable of farther inversion, when the object has attained the situation G. it is seen in the line G. R., which falls upon the retina at 3, a point *external* to the visual centre (2 R.); the shadow is, therefore, presumed to lie to the *inner* side of the object, at H. The nearer G. approaches, the farther from the acquired centre is the line of its luminous rays, and the farther to the opposite side of the object appears the shadow, until G. is so near that no rays from the object can penetrate into R. The object is now *single* once more, being seen by the left eye only; to perceive it distinctly, L. is now more inverted, and, at the same instant, R. is less inverted—adduction of the one and abduction of the other.

This is the explanation of the diplopia, after the successful operation for divergent squint; and, moreover, of those instances of the convergent variety, in which the shadow of an object more than a few inches distant is seen on the *same* side as the affected eye.

That the *outer* portion of the retina in an eye distorted outwards should acquire an increase of sensibility, is easily imagined, because this is constantly more exposed than the rest to rays of light; but it may seem somewhat paradoxical to assert that this is ever the case in *convergent* strabismus,

in which the outer part of the retina is habitually the least exposed to light. Yet this does occasionally happen, and the instances in which it occurs are readily distinguished. If the patient be directed to shut the good eye, and notice with the other an object at a few yards distance, the open strabismic eye will become everted so as to allow the rays from the object to be impinged on the most sensitive part of the retina, which is thus proved to lie external to the vertex of the eyeball: or else, if the eye cannot be so far abducted, on account of the inverting muscle still over-acting when the other eye is closed, the head is slightly turned to one side, and thus the same end attained. After an operation in one of these cases, in the double vision which results, the shadow of a *distant* object is to the same side, that of a *very near* object to the opposite side, as I have already endeavoured to explain.

Why the inner portion of the retina, which, in convergent strabismus, usually becomes more acute, should in these cases be inferior in sensibility to the outer part, it is not very easy to ascertain. In these instances I have invariably found the visual power of the strabismic eye very deficient: and the exciting cause has generally consisted in some previous inflammatory disease of the affected eye; most frequently strumous ophthalmia. Is it because the retina has become so much weakened, that no part of it can convey a sensation sufficiently distinct not to interfere with the perceptions of the sound eye, and therefore the organ is so distorted as to permit as few rays as possible to impinge on that portion of the retina which is most sensitive? Usually the distortion, *if depending upon visual defect*, is such as to enable the most sensitive spot to receive the rays of light; and, *if proceeding from any other primary cause*, the retinal spot, which does receive light most freely, acquires an extra-sensibility over all the rest except the vertex, and in some cases over that also. In these exceptional instances, however, that which appears to be the least susceptible part of the retina is most exposed to the light; because, although any other part could see *better*, its sensations would still be too faint to assist those of the other eye, and, therefore, the organ is so distorted as to prevent them from being made.

In the cases in which *no* diplopia

follows the restoration of a strabismic eye to parallelism with its fellow, the visual power of the two organs has not differed greatly, and the strabismus has been to a certain degree alternating. The usually inverted eye has been occasionally made use of with its straight and natural axis, so that the vertex of the retina never having lost its superiority, and no new visual centre having been formed, the operation restores to the identical points of the retinae the power of being directed in accordance towards the objects of sight, and consequently no double vision results.

The acquired centre of vision may sometimes be the spot of most acute vision in the distorted eye, but it is certainly not so in the majority of instances. The direction of the strabismic eye, when used on closure of the other, is the criterion. By the term "acquired centre," then, I merely wish to express that point of the retina which invariably accords in direction with the vertex of the good eye.

If I have been at all successful in explaining correctly facts which at first sight appear somewhat opposed to each other, I have shown that some interesting physiological questions may receive elucidation from the phenomena of strabismus. I venture to offer the following conclusions:—

1. That the consensual movements of the eyes are chiefly governed by the sense of sight, and are not the *necessary* result of any anatomical arrangement of the muscles and nerves.

2. That, nevertheless, the peculiar distribution of the nerves is a natural provision for facilitating the normal accordance of movement.

3. That there is a greater tendency for adduction of one eye to be conjoined with abduction of the other, than for the converging associated movements; in other words, that there is the *greatest degree* of consent between the outer rectus of one eye, and the inverting muscles of the other.

4. That this consent is not peculiar to the rectus internus only, but also to the other abducting muscles; since it occurs to a certain extent immediately after the operation for convergent strabismus, when the inner rectus cannot exert any influence.

5. That there is a functional identity of parts in the two retinae.

6. That this physiological correspon-

dence is not the necessary consequence of any peculiar anatomical arrangement, but of habitual coincidence in action.

7. That by disuse the originally identical parts may cease to correspond.

8. That from altered relative direction parts not originally identical may become so.

9. That, after restoration to the natural relative position, the acquired identity may cease, and the retinal points, which primarily did correspond, regain their suspended power.

10. That although there be no such anatomical cause for the identity of the retinae in general as some have supposed, yet, by the extreme delicacy of its organization, the vertex of the normal retina seems marked out by nature as identical with the analogous spot in the other eye.

11. That although there is thus an anatomical provision for the two spots to correspond, yet such correspondence may be suspended or destroyed.

12. That this natural fitness of one point for being the centre of the identical points, however, facilitates the restoration of function to its original condition, on removing the distortion which may have occasioned a new functional relation.

13. That in the healthy eye the centre of acute vision is in the vertex of the retina.

14. That, by habitual distortion, the vertex may lose its extra sensibility, and another point of the retina assume it.

15. That, in such a case, the new centre of acute vision is generally the spot on which the rays of light impinge most freely.

16. That, in the exceptions to this, the visual power of the distorted eye will be found very deficient.

17. That, in the majority of cases of strabismus, the vertex is found to still possess a pre-eminence in sensibility, but that a new centre of identical parts has been formed to correspond with the vertex of the good eye.

18. That objects are seen single, *cæteris paribus*, when their rays fall on identical points of the two retinae, whether these be *original* or *acquired*.

19. That, conversely, double vision results when the images are made upon non-identical points.

20. That the mind judges of the si-

ON
INJURIES OF THE SPINE.

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(Continued from page 595.)

(For the Medical Gazette.)

uation of an object by the muscular action necessary to see it most distinctly.

21. That as a certain muscular movement is required for an impression on a certain point of the retina, in reference to the visual centre, whether this be original or acquired, we may thus express the law of visible direction, viz. the situation of an object is judged to be just the reverse of that of its image in reference to the centre of vision; thus, if the image is formed on the *inner* side, the object is supposed to lie on the *outer* side, and so on.

22. That when the mind has for some time been accustomed thus to judge of the direction of objects in reference to an "acquired" visual centre, it does not lose this habit all at once, although the original parallelism of the eyes is restored.

23. That the relative position of the shadows and objects in double vision with healthy eyes, during temporary strabismus, and after the operation for that defect, is equally explicable in accordance with the law of visible direction as above stated.

24. That objects are seen erect, although their images on the retinae are inverted, in agreement with the same law. To see a ray coming from above, and impinging on the lower part of the retina more distinctly, there is a movement of the eyeball upwards; to perceive a ray which falls upon the upper portion of retina more clearly, a movement downwards: hence the mind, appreciating this muscular movement, judges the first ray to come from above (the upper part of the object), the second ray to proceed from below (the lower part), and thus the object is seen correctly.

25. That as, without vision, we judge of the direction in which substances lie by the situation of the common sensation, and by the muscular sense—for example, in groping in the dark, or feeling about the mouth with the tongue—so, with vision, we judge from the situation of the special sensation on the retina, and from the action of the muscles which direct the optic axis*.

* In Part II. p. 627, instead of the sentence commencing 13 lines from the bottom of col. 1, read, "The hypertrophied rectus internus of the right eye would generally have caused inversion of the *same*, but here it occasioned inversion of the *left* eye, because the power of vision was *very much weaker* in that than in the other."

BUT let us now go to more practical points. In concussion of the spine, the patient, immediately after the injury, as in all cases where the nervous system has received a violent shock, becomes almost lifeless; a marble coldness pervades the whole frame, but more particularly the paralyzed limbs. He cannot lie in any other position than on his back; his pulse is weak and faltering; and he is frequently unconscious of what is passing around him. In fact, the whole frame is in a state of collapse. In this situation he remains for a few hours, when reaction gradually commences; the warmth of the body returns, until it amounts to a state of fever; the pulse rises, becoming quick, hard, and full; the tongue is furred, and great thirst is felt; the patient has more or less pain in the injured part; and sometimes delirium supervenes. If the injury be received high up, there is dyspnoea, in consequence of the muscles of respiration being paralyzed, and, as I have before stated, the parts below suffer paralysis to a greater or less degree, according to where the injury was received, and the extent of its severity.

Although the above symptoms commonly happen, yet they do not invariably occur: the pulse does not always become quickened, nor does it always become increased in fulness. It not unfrequently remains stationary, without any perceptible change from the standard of health. It sometimes even becomes slower than natural, being reduced in beat as low as 60, and even 40. The temperature of the body, also, does not always increase. The animal heat is sometimes reduced, or may be much the same as before the accident. In many instances, also, it has been found that if a thermometer be applied to the paralyzed extremities, they will be some degrees lower in heat than those which do not suffer from the injury. There are other symptoms

besides the above, consequent on injuries of the spine. The bladder is not only paralyzed, but the urine contained in it generally becomes decomposed and foetid, and calcareous matter is frequently deposited. From this cause the mucous surface often inflames and ulcerates, by which the death of the patient is accelerated.

That the contents of the bladder should become decomposed has often appeared to me a very curious fact. It would seem, from such circumstance, that the nerves of the organ had some influence over its contents. Thus, if from any cause the bladder loses its power, from a deficiency of nervous influence, the urine, immediately upon being secreted from the kidney, undergoes, in some measure, that change which it would when it has entirely passed from the body. It would seem, therefore, that when the energy of this organ is diminished or entirely lost, that it resembles in some degree an inanimate vessel. It would not be possible to account for these symptoms, unless the nerves had some power over the contents of this organ which would prevent decomposition.

Another symptom similar to that in the bladder occurs in the intestines; the bowels become inflated and constipated immediately after the injury; in fact, there is frequently tympanitis to considerable extent. This leads me to think that it is owing to a diminished nervous power in the intestines, and that the contents of the bowels become decomposed, and air is disengaged. In the bladder the loss of nervous power can at once be accounted for: it is supplied by its active nerves by the 3d and 4th sacral, and which must be affected to a greater or less degree, by concussion of the spine. In the intestines, the symptoms do not so readily admit of an explanation, as they receive no supply of nerves immediately from the spine. There is, however, a very important connection between the spine and the intestines. The grand sympathetic nerve which supplies the viscera is connected with the anterior spinal nerve throughout its whole course. Through this channel it is possible that the muscular coat of the intestines may receive its power of motion; and if so, the symptoms I have described may be explained; for any power which the

intestines may receive from the cord must be lost when there is complete concussion of the spine.

There is another symptom, peculiar to injuries of the spine, when the accident occurs in the neck, opposite to the first four or five cervical vertebræ, which is *priapism*. Baron Dupuytren and others have long observed this fact, and it is supposed by some that it arises from concussion of the cerebellum at the same time.

The *prognosis* of concussion of the spine must depend upon the severity of the injury, and the part of the vertebral column upon which it was received. If the blow which causes it be given above the third cervical vertebra, and the concussion be complete, then instant death will be the consequence, as the phrenic nerve which supplies the diaphragm is paralyzed, as well as the intercostal and other muscles of respiration. If the blow is given on the cervical vertebræ, below the origin of the phrenic nerve, the completeness or incompleteness of the concussion may determine the point; if the former, the patient usually dies in less than a week; and if the latter, he may, by judicious treatment, struggle through it. The same, also, is the case through the whole column; the nearer to the brain the shock is received the greater the danger, and the more complete the paralysis the less chance of recovery.

The extent of mischief done to the medulla and its membranes can be judged of by the symptoms: if both the motion and sensation of the extremities are lost, then the whole substance of the cord, at the part where the shock was given, is involved in the injury; but if either motion or sensation only be deficient, that part of the cord only has suffered from whence the nerves which give that power arise. Under these circumstances, a favourable termination of the case may be prognosticated. The prognosis, also, of concussion of the spine must depend very much upon the extent of the permanent mischief that is done to the medulla spinalis and its membranes. If any of the membranes be ruptured, or blood is effused between them, or in the substance of the cord; or if there should be much subsequent inflammation, under such circumstances there can be little hope of recovery.

The *treatment* of concussion of the spine must be adapted to the three different stages in which it presents itself to our notice. 1st. That immediately after the injury. Secondly, the inflammatory stage. Thirdly, that when the active symptoms have subsided.

In the first stage, immediately after the receipt of the injury, the patient is usually so exhausted from the violence of the shock, that he is in a state of collapse. All that can be done at this time is to place him on his back in a warm bed, and to administer stimulants, such as brandy, camphor, carbonate of ammonia, &c. until reaction commences. When reaction has taken place, antiphlogistic measures should be immediately resorted to. If the fever runs high, and the pulse is quick, full, and hard, the patient should lose blood from the arm; if, however, the symptoms are not sufficiently violent to demand very active treatment, he should be repeatedly cupped and blistered opposite the injury, and purgatives also should be given, first to act briskly, then moderately, on the bowels. The feverish symptoms will be best allayed by the exhibition of antimonials combined with nitre, and small doses of saline purgatives. When the activity of the fever is diminished, blisters may be applied, and frequently repeated, on each side of the spine. During the treatment, the patient should take nothing but farinaceous diet; and it is of the utmost consequence that the spine should be kept as still as possible. The double inclined plane bed will effect this object completely.

In concussion of the spine, the muscles of the rectum are usually so paralyzed that they have no power to act, or that the fæces escape without their being able to control them. In the former case, injections must be used. The bladder, likewise, is unable to expel its contents. A catheter, in most cases, must be passed at least twice in the day, or as often as a sufficient quantity of urine is secreted.

It often happens that patients who have had concussion of the spine recover to a certain extent, and do not get quite well; that is to say, they have either an imperfect power of motion, or an imperfect sensation, or perhaps both. Before we treat this description of case, we must inquire the cause of such symptoms. The spinal chord and its

membranes have received a shock whereby either its structure is really injured, or from the inflammation supervening, depositions of lymph, &c. may have been secreted, and remain pressing upon the part. If the former, I fear our treatment will be of little avail; if the latter, or that chronic inflammation continue, then much can be done for the restoration of the patient. In the first instance, and when the injury has been recent, I should advise you to give calomel and opium, on the same principle as in concussion of the brain, so as slightly to affect the mouth, and keep up the soreness for a few days. By this treatment, it is possible that depositions may be absorbed, when the chord will be relieved, upon the same principle as the iris in iritis is unloaded.

But the symptoms may continue; when I should advise you to treat the injury just in the same manner as in diseases of the vertebræ: apply moxas on each side of the part, employ issues, and place the patient in one of Mr. Earle's beds. Go on with this treatment as long as symptoms demand it, taking care, at the same time, of the general health.

In protracted cases of injury of the spine, and where motion or sensation of the limbs have only partially returned, I have lately given, with great advantage, iodide of potash. I have begun with small doses, two or three grains, and increased it to ten grains or a scruple three times a-day. I will relate one or two cases to illustrate its effect.

CASE.—John Burke, æt. 24, labourer, January 10th, 1841, fell from a scaffold, about twenty feet high, and injured his spine in the lumbar region. He was taken up quite paralysed below in both voluntary motion and sensation. He lost the power of his bladder, and his fæces passed involuntarily from him, having no power of the sphincter muscle of the rectum. He was taken to one of the Borough Hospitals. He was cupped and blistered, &c.; and, after he had been there for six weeks, he was discharged better, but not cured.

His present state is, that he is partially paralysed below the injury; having neither complete sensation nor motion; walking as if he were tipsy, and being obliged to be held upon, or to rest against the wall.

He was kept in bed. A blister was

applied on the loins; and, when this had healed, two moxas were ordered on each side of the spine, at the injured part. I prescribed for him three grains of iodide of potash, in two ounces of decoction of sarsaparilla, to be taken three times a-day. The dose was increased gradually grain by grain. At length he took ten grains three times a-day, for at least two or three months; and, on the 1st of May, 1841, he went from the infirmary perfectly well, having the complete use of his lower limbs.

I shall mention another case, where the exhibition of the iodide of potash appeared to be of great benefit,—in an affection of the spine.

CASE.—October, 1839. A most respectable tradesman, who, in early youth, had met with an injury of the spine in the cervical vertebræ, took, at the age of about 45, a long walk. It was very wet, and he slipped very much about in the dirt. In the evening he was seized with pain and stiffness in the loins; and, thinking it a cold, he had his bed warmed, and took something hot. Having had an indifferent night, he got up in the morning no better. He was seized with spasm in the lumbar muscles, which he often had had at different times before. The pain and stiffness increased, and gradually got higher up the back. He found that the muscles of his legs became stiff, and he walked with difficulty. He sent for his medical attendant. He was bled, cupped, blistered, and took various medicines. Although temporarily relieved, the symptoms gradually increased, and at length he became in an opisthotonic state, having violent spasms backwards, and about the chest, on each movement. To use his own words—"I had *frequent* and *violent* spasms, from the chest along my ribs to the part of the back where the tenderness and pain were. These often came on when quite still, but always when I attempted to move—even a finger, and indeed my lips, or any other part of the body. When I awoke, for I only slept about two hours, I was obliged to be very cautious in moving, as the first motion was sure to bring on the violent snatching or spasm. I could not rise up in bed, or get my legs out, without help; but, when on my feet, I could walk."

When I saw him, he sat, being bent slightly backwards, in an erect stiff po-

sition, having a high-backed chair, on purpose that he might rest the back of his head against it. He walked perfectly erect, with slow and measured step, not unlike the Ghost in Hamlet, as it is represented. He had been in this state for a year, and had made arrangements to give up his business.

We held a consultation on his case, and took it in all its bearings. After much consideration we were led to think that there might be pressure on the spinal chord, and more particularly on the motor tract, as there was tenderness in the dorsal region of the spine. It was only to be feared that it might be of an osseous nature, from the original injury. However, as every remedy had been tried, I proposed that he should take the iodide of potash, first in small doses, gradually increasing the quantity, and that an issue should be made opposite the original injury. This was done, and the treatment was strictly followed for four or five months. The opisthotonos gradually subsided, the spasms ceased, and the rigidity and stiffness of the limbs diminished. In six months, to my astonishment and all who knew him, he was quite well, superintending his business, and going about as usual. I have seen him several times since, and he has continued well, and has been able to take long walks of two or three miles distance.

CASE.—I shall relate one other case, of an affection of the spine, where this remedy was of great service. A young lady, æt. 24, at the age of 12 gradually became very lame in both legs; losing partially the power both of motion and sensation. She could walk, but in a most imperfect manner—rolling her legs about, and constantly stumbling and falling. This lameness increased, and she could not go up and down stairs. Unfortunately, not only the lameness became worse, but by degrees she partially lost other powers. She was an excellent pianist, and the disease gradually crept up the spine until the right arm became affected, losing partly the motion and sensation of it, and she could not play on the instrumental.

At this period she consulted me on her case. I felt, as there was nothing to be seen wrong in the vertebral column, that it was one of those curious affections of the spine which we could not explain. I thought it probable

that there might be some deposition on the spinal cord; and, accordingly, I prescribed for her the iodide of potash in sarsaparilla, beginning with small doses, and increasing it up to ten grains, or a scruple, three times a-day. She also used a veratria ointment, to be rubbed on the spine. She went on with this treatment for three months. She improved so far as to be able to make use of the arm, and to walk up and down stairs; but she had not resolution to go on with the treatment, feeling that it caused nausea and other unpleasant sensations. She remains lame; but can walk farther, is stronger, and is much improved in the other respects I have mentioned.

I have given the iodide of potash in other cases, and always with benefit. I have a case under my care at this present time, of a very protracted affection of the spine, where its administration has been of infinite service, and I have reason to hope the patient will ultimately recover.

It appears to me, that the exhibition of the iodide of potash causes the absorption of any deposit on the spinal cord or its membranes, and that, by such removal, it is restored to its healthy functions.

[To be continued.]

ON TUMORS IN THE BLADDER.

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(For the London Medical Gazette.)

IN this paper I mean to relate first, some cases of disease in the bladder, which might have been mistaken for stone, and then a similar case, which was so mistaken, where the operation of lithotomy was performed, and where the result was fatal. I shall afterwards subjoin three, which shew the state into which such tumors of the bladder pass, when they are entirely left to themselves. Several of these cases came under my own observation, and the preparations and drawings which I made from them are on the table.

George Biebner, ætat. 62, weaver, was admitted into the Glasgow Royal Infirmary, January 16th, 1833, under

the late Dr. Balmanno, with whom I was medical clerk. Has constant pain in left lumbar region, aggravated on pressure, and constant inclination to make water. Urine is scanty, milky, and deposits a copious brownish sediment. Has considerable pain, referred to neck of bladder, on commencing to make water; yet, on introducing a sound, no stricture or calculus could be detected; but bladder was felt contracting strongly round instrument. Says he has never observed either numbness of thigh, or retraction of the testicle, which might have been expected, if he were supposed to labour under any affection of the kidneys. Complains of cough, with tough mucous expectoration, and of dyspepsia, with gastric acidity. Pain is of some weeks' standing, and he is reported to have formerly passed gravel.

Pulse 92, intermitting; action of heart fluttering; respiration 40; tongue red and dry; bowels slow; skin natural.

He was ordered a saline purge, a bitter infusion with soda, for his dyspeptic symptoms, and a mucilaginous mixture for his cough.

After this he complained of pain in the perinæum, and stitch in left side, for which he was several times leeches and cupped in both places, without relief. A fortnight after admission, left kidney was discovered to be enlarged, its lower extremity reaching to five inches below margin of left false ribs. After this discovery it was pretty plain that nothing was likely to produce any permanent benefit; and all that was attempted was to give some temporary alleviation, by prescribing medicines of a soothing tendency, and supporting his failing strength.

On the 10th of February he died, twenty-five days after admission.

Inspection.—On opening abdomen, a large tumor presented itself, which was found to involve left kidney. It was about the size of a man's head, and was lobulated. On cutting it, about three pounds of pus flowed from several distinct sacs. In these were seven or eight calculi, some about an inch in diameter, some less, and some larger. I place most of them before the Society. They have been ascertained to consist of uric acid. The liver contained numerous tubercles, of a carcinomatous character and cheesy consistence, from the size of a pea, to upwards of an inch

* Read before the Glasgow Medical Society, Dec. 21st, 1841.

in diameter. The appearance of the surface of the liver, of two of these, is shewn in the drawing which I made at the time.

The bladder contained some turbid urine, and had two small fungous tumors projecting into its inside, growing from beneath the mucous membrane. The larger was the size of a small walnut, had burst through the mucous membrane, and was spread at its top into a fungus. The other was like a pea, and was placed so as almost to act as a valve to the urethra. It doubtless was the cause of the pain felt on commencing to make water. The preparation of the bladder is on the table.

This case was evidently beyond the reach of either medicine or surgery. Tapping the kidney would have brought on hectic, and the removal of the stones would scarcely have been practicable. The colon lay over the tumor, was adherent to it, and had its coats nearly absorbed, at a point where the tumor was also very thin in its wall; and had he lived long enough, the pus would probably have been discharged by this channel. The fungous disease of the bladder is very rare, and of course was also beyond the reach of aid.

Tumors such as I have now described are, I suppose, what have been called *polypi* of the urinary bladder. Some which have been described under this name were probably nipple-like projections of the third lobe of the prostate; but we have no tangible ground for believing that there ever is in the bladder a polypus like that which grows in the nose. There may perhaps be such things as fibrous tumors of the bladder, pedunculated, like what are called *polypi* of the uterus; but I do not find them described anywhere, and I have never seen any thing of the kind. Most of these vesical tumors seem to possess a firm, white, homogeneous structure at their base, truly carcinomatous, while their free surface may be looser in its texture, red, vascular, or even fungoid. The bladder is usually thickened and indurated around their roots, either as a consequence of the irritation or inflammatory action which at first originated them, or from an extensive deposition of the heterologous formation of which they consist. In

some cases the bladder is thickened to the extent of two, three, or even four inches, from deposition of carcinomatous matter, generally about its inferior fundus; while, internally, the tumor is exposed by the destruction of the lining mucous membrane, exhibiting either a deep cancerous ulcer, or projecting fungoid vegetations.

In Warner's Cases in Surgery, published in 1784, a case is recorded, where he successfully removed an excrescence growing from the bladder of a young woman. Three years before applying to Mr. Warner, she had strained herself in lifting a heavy weight, and was immediately seized with pain in the back, and retention of urine. Mr. Warner introduced his finger by the urinarius, and discovered a considerable tumor, which seemed to be a fleshy substance, taking its rise from the lower part of the bladder, near its neck. When the patient strained to make water, and the bladder was full, the excrescence protruded a little way out of the urethra; but on ceasing to strain, it presently returned. The swelling having been made to protrude, he hindered it from returning by passing a ligature through it. He then slit up the urethra about half-way to the bladder, and by pulling the tumor forward, was enabled to tie its base, which was very broad. On the 6th day the tumor dropped off, resembling a turkey's egg in shape and size. The patient is stated to have perfectly recovered, but nothing is said of her condition afterwards, and the probability is, that the disease must have returned.

A case is related in Mr. Howship's work on the Urine, of fungous tumors in the bladder, which a French surgeon, M. Le Cat, attempted to remove. He cut into the bladder, and with his forceps pulled away and crushed several *fungi*, at two different sittings. The patient, a woman, died two days after the second operation.

I find M. Civiale, the surgeon who is so well known for his address in drilling and crushing stones in the bladder, proposing in 1834 to employ his lithotritry instruments for destroying *fungi* of the bladder. I can scarcely help thinking that he must have done this at first in a mistake, and that having found that he had got hold of a

tumor instead of a stone, he determined, as French surgeons generally do, to make a merit of his misadventure.

"I conceived," says M. Civiale, "the idea of having recourse to extraction by means of instruments analogous to those for crushing the stone. I put this in practice first in 1827, on a patient who had a small fungus attached by a pedicle. The operation was simple and easy; (!) the patient passed a large quantity of blood with the urine; no bad symptoms supervened, and on the following day the patient was comparatively well. I made use of a small instrument, and although the fungus was closed in the pincers, the whole passed easily through the urethra.

"Another patient was submitted to the same process in 1829; the tumor was hard, and of the size of a walnut. It was necessary to crush it and reduce it to a pulp, before it could be made to pass through the urethra. The operation was painful and difficult (?); two sittings were required for its completion, at an interval of seven days. Three months afterwards the patient died from typhus fever, without any symptoms of disease of the bladder." It is a pity that M. Civiale did not get his patient inspected, and he would probably have found that the typhus fever was only symptomatic of renewed and aggravated disease within the bladder. Several other cases are spoken of as having been treated in a similar manner, but not the least information is afforded of their subsequent state.

I have next to request the attention of the Society to another preparation from my museum. It is the bladder of a man, much contracted, and consequently thickened. The mucous membrane is thrown into many deep folds, which are all encrusted with a deposition of the triple phosphates. I have no detailed history of the case, only I see it noted in my catalogue that he had suffered from great irritation of the bladder for six or seven years.

Now this case is a stepping-stone from the first one which I related to the next. When these folds of mucous membrane, crusted with phosphates, were touched with a steel instrument, a grating sensation was conveyed to the fingers; although, as they were soft, nothing like a distinct ringing sound could be elicited by striking

them. It will be obvious that if a tumor, such as has been described in the previous part of this paper, were crusted with calcareous matter, the similarity of the feeling to that of a stone in the bladder would be very great indeed.

In the London Medical and Surgical Journal for 1834, a French case is related, of an old man, in whose bladder was a fungus, of a brain-like texture internally, hanging by a pedicle, and crusted over with a urinary sediment. Mr. Howship also mentions a case where a stone was found in the bladder, and, in addition, some parts of the mucous membrane had the feel of sand-paper, as also had some fungous excrescences growing from the walls of the viscus. Now this was precisely the state of the bladder in the case I am about to relate, of which I lay before you a drawing, which I consider one of the best of my performances in that way.

D. M. æt. 55, was admitted into the Glasgow Royal Infirmary, on the 7th of March; for obvious reasons I suppress the year. He complains of almost constant severe cutting pain opposite frænum, and frequent calls to make urine, when the little that is passed is often suddenly obstructed, and flows in drops. Urine when voided deposits, on standing, sandy particles of a brownish colour, and was often mixed with blood some time ago, but not now. When the calls to make water are very urgent, and the pain is severe along the course of urethra, there is often a disposition to void the fæces, with prolapsus ani, and discharge of blood, apparently from internal piles. No enlargement of prostate is detected. A large sound passes with ease into bladder, and detects a rough foreign body, but there is no sound elicited on striking it with the instrument. Pulse 100. No pectoral symptoms. General health impaired. Symptoms commenced a year ago, and are daily becoming more aggravated.

The bowels are kept open by sulphur, cream of tartar, and castor oil, while irritation was removed by leeches to the perinæum, warm baths, and anodyne enemata and suppositories. On March 13th it was reported,—symptoms of irritation are greatly diminished; urine to-day looks thicker, and deposits a white sediment; some flakes of puru-

lent-looking matter are observed suspended in it, and it has a decided alkaline re-action. To use lemon-juice.

On the 14th, on account of weakness, he was allowed two glasses of port in the day. On the 16th, the infusion of pareira brava was prescribed, and from this date his bladder was daily injected with tepid water, from four to six ounces. This proceeding appeared to give acute pain.

A few days after last report, an instrument similar to Baron Heurteloup's percussor, but moving by a rack-wheel, was introduced into bladder, and the supposed stone was seized and crushed twice. No calculous detritus was voided, but some flakes of mucous substance. He suffered acute pain during the operation. The inflammation of the bladder became greatly aggravated, and he died in about a fortnight after.

Inspection.—The bladder was much contracted, its coats measuring three-eighths of an inch in thickness. In its substance, near its fundus, was an abscess, seen in the drawing, holding about a tea-spoonful of pus. The mucous membrane was found much thickened, and of a dark red colour. The prostate seemed completely disorganized. Projecting from anterior wall of bladder was a tumor, of a firm carcinomatous texture, adherent by an extensive base, and lobulated on its surface, filling up nearly a third of the cavity. It was all encrusted with calcareous matter. A piece of this tumor was found lying detached, with the marks of the teeth of the instrument in two places. This piece had very probably been torn off from the rest in the attempt at lithotrity, and during the fortnight that it had remained in the bladder detached, it had probably had the torn surface crusted over with the calcareous deposit.

This is an extremely interesting and instructive detail, as shewing how a man is led to believe what he wishes to be the case; for had the surgeon not had a great wish to perform lithotrity on the patient, I scarcely think he would have persuaded himself that he felt a stone. The ringing sound, and the firm distinct contact of the instrument against a hard body, were both wanting; and I believe I express the opinion of the best surgeons when I say, that no operation should be undertaken without these to warrant us. I

have only further to remark on this case, that death must necessarily have terminated it, even had it been let alone; but that this end was much accelerated by the operation.

In the bladder, as in other situations, a carcinomatous tumor may go on to ulceration, so that a considerable loss of substance shall be the result. The preparation marked (prep. 35), exhibits a rare specimen of this. The patient from whom it was taken, Andrew Adam, aged 77, was one of the inmates of the Asylum for Old Men, to which I am surgeon, along with Dr. Fleming. At the commencement of my half-year, in April last, I found that he had been suffering from hæmaturia, with great pain referred to his bladder, for which all the usual remedies had been tried by my colleague. I made trial of uvi ursi for some days, and then injected cold water into his bladder, to check the bleeding, which was sometimes very profuse. This proceeding occasioned great pain, and was not repeated. He died in a few days after I took charge of him, worn out by his sufferings.

On inspection, the bladder was found much contracted, and its coats thickened, yet from the adventitious matter connected with it, fully exceeding my fist in size. It is laid open through its anterior wall, and exhibits the prostate, and first part of the urethra, quite healthy. A circular ulcer, measuring two inches in diameter, occupies the base of the bladder. Some parts of it are deep, others elevated and fungoid, and in the recent state were bloody, with clots interspersed. A black bristle is seen in the right ureter; but the orifice of the left could not be found, being involved in the ulceration. A tumor, forming the base of the ulcer, projects backwards, and to the left side; and a section of it shows its firm white carcinomatous texture. Still more to the left, and higher up, there projects backward a tumor composed of a mass of lymphatic glands, which have taken on the cancerous degeneration, and through which the iliac arteries and veins are seen to pass. A portion of this tumor is cut off, and the section shews its structure. On its inner side the left ureter is seen laid open, with black bristles holding its edges separate; but it is soon lost in the hard mass which forms the base of the ulcer. I

have often regretted, since finding this out, that circumstances prevented me from proceeding further, and ascertaining the state of the left kidney.

I shall quote, very briefly, a case somewhat similar, from Mr. Howship. A female, aged 79, had long felt uneasiness about the bladder, and now complained of a constant desire to pass her water, which was a turbid purulent fluid, rather than urine. On her death, the bladder was found thickened, feeling as if moderately distended with a pulpy matter. When opened, a little thick bloody urine, some irregular masses of phosphates, and a quantity of brain-like matter, were within its cavity. Turning the brain-like mass out of the cavity, several pulpy tumors were found, exactly of the appearance of fungus hæmatodes. One of these, of the diameter of a crown-piece, evidently formed between the muscular and mucous coats of the bladder, had protruded inwards, rendering the lining membrane covering it very thin; and towards the centre, the whole structure, surface and substance, had given way, and was in a state of partial decomposition, leaving a pulpy, ragged, projecting basis. The other tumors were less advanced in growth, but of similar texture.

One other quotation from the same author will illustrate the further progress of this disease.

A woman of middle age died after long suffering, referred to the uterus and bladder. On dissection, the right kidney was only half its natural size, and proved to be not only wasted, but reduced into cells. Its pelvis and ureter were much enlarged, from the continued pressure of the contained urine. The left kidney was large, but comparatively healthy; its infundibula, pelvis, and ureter being less distended.

The uterus was about three times its natural size; its broad ligaments and other lateral connexions were much thickened, forming an extensive schirrous mass. On careful examination it appeared, that the affection of the kidneys had arisen from the ureters being compressed, in consequence of their lower extremities being involved in the uterine disease. (This makes me regret the more that I did not get examining the kidneys in my case, for I might have found some extraordinary state of the left, whose ureter was completely

obstructed.) The bladder having been opened, a pulpy tumor, the size of a walnut, was found on its posterior surface, near its neck, behind which was an opening, freely admitting the finger into the vagina. The rectum was sound, but adherent to the back of the uterus. A longitudinal section through the rectum, vagina, and uterus, exposed the primary seat of the disease. The cervix, and in some measure the body of the womb, were destroyed by ulceration. The remaining structure, near the ulceration, was soft like brain, while what remained beyond was of a cartilaginous hardness. On a part of the ulcerated mass was seen the opening of communication with the cavity of the bladder.

Such is all that I have collected upon the subject of tumors of the bladder. I should perhaps apologise for introducing so much of other people's cases, and so little of my own; but I can only say, that the information which any one of us can obtain about such a matter from his own experience, must be very limited, and of very little use, unless dovetailed into that of others. And let this stand as my excuse.

PATHOLOGY OF THE KIDNEY.

To the Editor of the Medical Gazette.

SIR,

I REGRET that Dr. Bright has not stated any of the results of his recent researches into the early changes in the kidneys in connection with albuminous urine, when addressing you in the pages of your immediately preceding number. All that I can gather from his communication is, that he and Mr. Toynbee have been, during the last two years, engaged with this subject; that a third gentleman, Mr. Robinson, has also been contemporaneously occupied with the same task; that the results of all their labours somewhat agree; and that a principal part of these results is, "the condition of the Corpora Malpighiana:" but in what this "condition" consists Dr. Bright does not inform us.

As the part of the next forthcoming number of my "Dictionary of Practical Medicine," containing my account of the nature, complications, and treatment of the particular disease of the kidneys in question, has been printed

some weeks since, and as I am in perfect ignorance of the results of the researches of the above-named gentlemen, beyond what is contained in Dr. Bright's brief communication, I am anxious to state in your pages, whilst I am in this state of happy ignorance, the more important parts of my views, as they are printed and may be seen at my printer's.

I may, however, premise that the opinion of the Malpighian bodies or glandules being the earliest, or amongst the earliest, of the tissues of the kidneys affected in connection with albuminous urine, has been long since explicitly stated by M. Rayer, and is even noticed by me, in a cursory manner, in that part of the article KIDNEYS, containing "Inflammation of the vascular and tubular structures of the kidney," and lately published in the seventh part of my work. In the succeeding section of that article, about to appear in the eighth part, I have treated of nephritis with albuminous urine, under the name of "cachectic nephritis;" and have considered it, in respect of its origin, of its concomitant states of vital power and assimilation, and of its complications, as essentially a cachectic malady, originating in constitutional vice, either original or acquired. But I here quote what I have observed on this topic; and send you the proof sheet to print the quotation from, with the date, as affixed by the office reader to all my proofs.

"NATURE OF CACHECTIC OR ALBUMINOUS NEPHRITIS.—From what I have already stated with reference to the *causes*, and the *associations* or complications of this malady, views as to its nature, and more especially the one entertained by the author, may be readily understood. Hitherto, it has not been sufficiently considered as a merely secondary disease, all the phenomena in any way connected with it being viewed rather as signs and symptoms of its pre-existence, in some one or other of the forms of lesion described above, than as concomitant changes, many of which depend more upon antecedent disorder than upon the associated or otherwise related affection of the kidneys. The questions, therefore, are—1st. In what does this primary disorder consist? 2d. In what manner does the renal malady arise consecutively upon it? and 3d. Wherefore is

this consecutive disease so very generally associated with others, in some part of its course? What has already been advanced will render it unnecessary to enter upon lengthened details in answering these questions.

"1st. The several circumstances connected with the origin of the malady—the predisposing and the concurring and exciting causes—the existence and the character of antecedent disorder affecting either the general constitution or the functions of some vital organ,—all combine in evincing that the earlier morbid states are impaired organic nervous power, and, consequently, insufficient sanguification and assimilation, with disordered secreting and excreting functions. It will necessarily follow, even from an early stage or from a slight grade of these morbid conditions, that the blood will be more or less affected, and that a change in the blood will, according to the nature of such change, affect also other organs.

"2d. It is difficult to state with any degree of precision what are the changes which impaired organic nervous power, and consequently weak digestive and assimilative functions, will produce in the blood at early stages of their existence; but, in more prolonged periods of their influence, the results are frequently remarkable to the senses, although not so precisely determined by chemical or physical analysis. It is probable, from the results of observation and analysis as partially employed, and from analogy, that the chyle is not fully elaborated in the first instance, nor subsequently changed into healthy blood; that the serum contains more oily or fatty matter than natural, the result of insufficient assimilation; and that the several constituents of the blood, in relation to each other and to the system in which they circulate, are held together by a weaker vital affinity. During this state of the organic nervous power and of the circulating fluids, the excretory functions necessarily become impaired; and although those substances, which are the ultimate results of assimilation, may not be abundantly produced, certain of them, as urea, may be present in excess in the blood, owing to insufficient excretion, especially by the skin and kidneys. The resulting morbid condition of the blood will thus become an exciting cause of vascular disease

of the kidneys progressively advancing to organic change; and, once these important eliminating organs are diseased, the blood will become more and more altered, and sanguification the more impeded or altogether arrested. In all cases, also, both kidneys will be affected; for, as in other diseases, where the causes are constitutional, consisting of cachectic states, or of changes in the blood, double organs, or similarly constituted tissues, will experience similar or even identical changes.

“3d. The chief reasons for the appearance of cachectic nephritis in connection with other maladies are apparent in the very condition or circumstances of the constitution, and of the health of persons, in which it occurs. There is not only the pre-existing impairment of the digestive and assimilating powers just insisted upon, but there are also, in many cases, other antecedent maladies, which are always attended by weakness of these functions, as phthisis, scrofula, scarlet fever, &c., and which readily give rise, especially in certain states of predisposition, to the renal malady as a secondary or more remote effect. In these cases, the associated or related disease is primary, and favours the production of that state of the blood which affects the circulation, and ultimately the structure of the kidneys. Other complications are either associated results of the previous disorder—are equally with the renal malady effects of the previous changes in the states of organic nervous energy, and of the blood,—or they are consequences of the disease of the kidneys, through the medium of the blood, a morbid state of this fluid being much increased by the affection of these organs; and being such as readily inflames or irritates parts which, from predisposition, former disease, or the influence of concurring causes, or prevailing influences, become more liable to those consecutive affections.

“The *dropsy* so generally attending this malady arises from more than one of the pathological states constituting it. In the *acute* or early state of the disease, and especially when it is consequent upon scarlatina, the anasarca is chiefly owing to the weakened vital affinity subsisting between the constituents of the blood, and to the weakened tone of the extreme capillaries. Probably something is also

owing to the suppressed functions of the skin; exhalation from the external surface of the integuments being interrupted, it becomes increased in the subjacent areolar tissue. The action of the kidneys is also impaired in most of the acute states of the disease; the watery parts of the blood become excessive; excrementitious plethora is thus produced; and effusion takes place from the overloaded vessels. In the *chronic* and far advanced states of the disease, the dropsy is owing chiefly to the change in the blood itself—to its thin and impoverished condition, and to impairment of the vital affinity between its several constituents, and between it and the blood-vessels. That the dropsy is not owing to excess of serum, is shown by its co-existence with a free discharge of urine, and with diarrhoea, and with an anæmic state of the vascular system in many instances. It may, however, be increased by the suppressed perspiratory functions of the skin.”

When treating “*of the appearances of the kidneys after death*,” I state—“On dividing the kidney, the increase of bulk is found to be owing to tumefaction of its cortical substance, which exhibits numerous red spots similar to those visible on the surface, and which, according to M. Rayer, correspond with the glands of Malpighi, highly injected with blood. I have observed these glands or bodies not only thus injected, but their central cavities also either obliterated or filled with a whitish or yellowish granular matter, which I have considered as being albuminous in its nature. The tubular structure, compressed between the tumefied prolongations of the vascular or cortical substance, and the enlarged or tumid Malpighian bodies, is of a duller red, and its striæ are less apparent than in the healthy state,” &c.

These are the results of my observations, as stated in the part of the article referred to, and *when describing the changes observed in the acute and earlier states of “cachectic or albuminous nephritis.”* I need hardly add, that the *treatment* (generally hopeless in the chronic forms of the malady) is based by me on the pathological views above adduced, and on observation.

I am, sir,

Your obedient servant,

JAMES COPLAND.

5, Old Burlington Street, 29th Jan. 1842.

ANALYSES AND NOTICES OF BOOKS.

L'Auteur se tue à allonger ce que le lecteur se tue à abréger."—D'ALEMBERT.

Facts and Impressions on Medical Subjects. London, 1842.*

THIS is one of a class of works of which we trust we shall see many more. It is a simple account, by a practitioner of experience, of observations which he has made upon the rarer cases of disease, and the efficacy of particular medicines and plans of treatment. He professes to have given them to the public because they were new to him, and therefore might still be new to some of his readers. Every physician and surgeon probably accumulates a similar record, which he is deterred from publishing by the small amount of facts absolutely new which it contains, and an unwillingness to write a book that may seem inferior to his reputation. So, many of the practical conclusions of the most eminent we have had have been lost to us, and that illumination of obscure cases, and doubtful points of treatment, which we used to receive upon calling in Pitcairn, or Cline, or Baillie, or Warren—the light of their “saws and instances”—has been unnecessarily extinguished. “The hinges upon which my practice turned,” this is what we want, and have a kind of social right to demand, of men of that stamp of ability and knowledge. Heberden, in his admirable Commentaries, may be taken as a model how this is to be done. We want the pith of the experience of professional men, in the state in which they kept it for use. So we hail the appearance of the present modest volume, which is addressed to the well-informed, and presupposes a foregone acquaintance with the science and practice of the healing art, and offers without pretension, claiming no originality or priority, the facts and views turning up in his practice which had interest and novelty for the author. We hope it may lead persons of higher pretensions to do the same thing better.

* The article which follows has been sent to us with the author's name: it contains several interesting cases which it is conceit to publish in this fashion, and we have therefore given in to his humour by inserting it among our “Analyses and Notices.” The quotations marked by inverted commas are from his case-book.—ED. G.

Something let us take occasion to add of ourselves as the reviewer. We are, unlike other writers in medical reviews, a young man profoundly ignorant of the subjects on which we issue our judicial decisions; and our practice, we must admit, is not to wade through, but to make random dips into, the volumes of which we discuss the merits. But if intellectually lazy and incompetent, morally we rank high. We do not by calumnious representations endeavour to cast a shade over the fair fame of an author, that we may get his book out of the way of one of our own; nor do we cheat our employers by passing off American travesties as original composition; nor do we unjustly give the author's views in loose and imperfect abstracts. No; we are careful to let him speak for himself, influenced by the most praiseworthy honesty, and assisted by paste and a pair of scissors. If the idea is not novel (and what is?) we are probably the first to avow it as a system. Possibly, indeed, yet better times for the reader may come, and experience and learning and genius may, in medicine, as they are used to do in literature and philosophy, take a frequent turn at the reviewing oar, and give a day-relief to the honest fellows who are condemned, like ourselves, to life-long toil at it. But to sober observers this expectation will appear chimerical and visionary; and we have heard several express a doubt whether even our own innovation will meet with general adoption. But of ourselves, *satis superque*. Agreeably, then, with our professions of fidelity to our author, we shall now proceed to present to our subscribers, from the work before us, two entire pages: to speak sincerely, the only two we have yet read. But we have selected them impartially; we nudged the volume towards the edge of the table, and where it opened in falling, there have we made our extracts.

Use of Opium.—“The late Dr. Warren told me that the use of opium was the latest thing he learnt in practice. This observation I was struck with, and it has recurred to my mind in several difficult cases, of which I give the following as instances:—

“I attended with Dr. Merriman an infant two years of age, the daughter of Lady ———, in an attack of fever, which gave us some alarm, as hydro-

cephalus prevailed in the family. After several days, during which the infant had become gradually worse, its condition was this: it had entirely fallen away, from being a very fine child; its face was miserably pinched; it had repeated convulsions, of the character of opisthotonos; but the spasms were not permanent, and might rather be described as repeated convulsive extensions of the body, with the head thrown backwards. The head was not heated; the veins of the temple were not full; it had been freely purged, and the usual treatment gone through. Dr. Merriman concurred with me in recommending the exhibition of a minim of laudanum, to be repeated during the night. The child passed this night much more tranquilly, was free from spasm the next morning, and recovered.

“A young gentleman had hernia humoralis. The swelling was not very great, but there was much tension, and severe pain. Leeches were applied, and calomel and aperients administered, with temporary relief. In the early part of the evening the pain had resumed its former violence. Sixteen ounces of blood were then taken from the arm. The patient became pale, the circulation sensibly reduced, and the pain was subdued. In the night I was sent for again; the patient had had a return of pain, which he described as much more severe than ever, and extending from the testis to the loins. His tongue was furred; his pulse frequent, but not hard. I prescribed two grains of opium. After taking the dose the pain subsided; the patient slept, and on his waking the following morning the pain did not return. He was kept a few days in the recumbent posture, and the swelling of the testis diminished, and finally dispersed.

“A person about forty years of age had been liable to rheumatic gout and bilious disorder. He was of a strong frame, but not plethoric. He was taken with pain in the region of the stomach; this continued all night, and the following morning he was sick and vomited bile. The latter symptom did not recur. He was well purged, and blue pill given him daily; but the pain in the epigastric region became worse. On the seventh day of the attack I saw him. On waking that morning he

found himself blind. At 11 A.M. he had had a strong epileptic fit. He had been bled and put into a warm bath in the afternoon: while in the bath the pain in the stomach was temporarily easier. I saw him at 7 P.M. He complained of intense throbbing pain at the epigastrium, which was tender on pressure, and sore, a blister having been applied over it. There was no flatulent distension; no nausea. The sounds of the heart were normal. His head was a little confused; he could just distinguish the faintest glimmer when a candle was held close to his eyes; the pupils were contracted, and seemingly immovable. The blood which had been taken had no size; but the pulse was full, and 130 in frequency; the tongue covered with a brown fur. He was ordered to be again bled to sixteen ounces: it was done, but no relief ensued; and a blister to be applied to the back, opposite the seat of pain. The venesection was to be followed by ten grains of Dover's powder, to be repeated in an hour, and then every three hours during the night. In half an hour from taking the first dose the patient was easier; afterwards he had some sleep, and awoke refreshed. In the morning the pupils were again moveable, and his sight was almost as perfect as usual. The pain at the epigastric region was reduced to a constant uneasiness there. It gradually wore away. But during his recovery, he complained of severe pains at the lower part of the belly. He continued to take small doses of Dover's powder with blue pill and colchicum, and aperients. I attended this case with Mr. Angus, of Frith Street, Dec. 1841.”

The other passage of this plain writer which we proposed to quote, strongly recommending the whole to the attention of the profession, contains three cases of another character:—

Effects of Spinal Irritation.—“A lady had been under treatment for some time for violent fits of short convulsive nervous cough, which came on several times during the day. The paroxysm lasted, at each attack, eight or ten minutes—in fact, till she was quite exhausted. She seemed otherwise in perfect health. There was no affection of the chest or larynx. She was about eight-and-twenty, married, of a very fine personal appearance. I begged to examine the spine: it was

perfectly regular and straight; but on tapping the spinous processes of the vertebræ hard with the end of my finger, percussion of the three middle dorsal spines caused her to shrink with a sense of inward soreness and pain. I slightly broke the skin at two places, half an inch to one side of the spinous processes of these vertebræ (producing superficial sloughs), by rubbing it with potassa fusa. In five days there was evident amendment. Twice in the fortnight the caustic was re-applied. The local soreness and the cough in little more than this period had vanished. The surface broken at each point was an oval, half an inch by a quarter of an inch.

"A young lady, aged 19, was placed under my care for violent fits of hiccup, for which she had been under treatment ineffectually for two or three months. She was pale and delicate in appearance; but the want of colour was natural to her, and her constitution was good, and her health not otherwise disturbed; she was only thinner than usual, and weaker, and worn in spirits, from the frequent recurrence of the fits of hiccup, which supervened on any exertion or surprise, on the most trifling physical or mental excitement. I examined the back, which was perfectly straight; but I found that from about the fourth to the last dorsal vertebra, on tapping the spinous processes a sense of inward soreness was produced. I resorted to the same method as in the last case, and in three months the patient had quite recovered. The hiccup had not been the only symptom: if the paroxysm was violent, it was sure to be accompanied with pain of the right side, and a thrilling sensation in the right ulnar nerve at the elbow, extending to the wrist and little finger. Frequent rests during the day in the recumbent posture I found an important accessory part of the treatment; with, towards the close, exercise to an extent short of fatigue, and tonic medicine.

"Three years afterwards [June, 1841] this young lady came again under my care, for a return of the same complaint. It had been brought on by fatigue and anxiety: her father had died, and, in a few months afterwards, her mother. The hiccup was, in this attack, as troublesome as before in the former: there was the same pain in the

right arm and right side; and a new feature, weakness of the right knee; and occasionally a short fit of coughing. The same inward soreness of the back was present. She recovered again under similar treatment; after which she went to Brighton, by my advice, and bathed frequently: she there completely regained her full health and strength. In both of these attacks the local tenderness was throughout exactly commensurate with the tendency to hiccup, and lessened, decreasing in extent and intensity, as the hiccup lessened."

"These two cases are known to Dr. Formby.

"A young person, aged 27, unmarried, short, slight in figure, having ailed from a child, when ten years old, being at play with her brother, fell down stairs, and his elbow struck the side of her left breast. The bruised part became swollen and painful, and an abscess formed, which was opened at the expiration of three or four months from the injury: the abscess took half a year to heal. The *left* breast gave her no farther trouble, but she was a constant sufferer with pains in the side, or in the back, or in the head. When arrived at 20 years of age, an abscess formed on the inside of her *right* breast. It was painful, and took three months to mature: it broke of itself, and healed in four or five weeks, leaving no pain, tenderness, or hardness. Four years ago, however, new pain supervened in the *left* breast, of an aching, shooting, darting character, and extending to the left shoulder and side; varying from day to day; sometimes leaving her suddenly, sometimes gradually; being almost constantly present on waking. These pains have lasted to the present time. When at the worst, she cannot raise her left arm without increasing the pain; and raising it suddenly at any time will bring it on. She is strictly regular; the left breast, slightly less than the other, is lumpy, and tender on pressure; the right, soft and natural.

"The trifling hardness or lumpiness in the breast were slight inflammatory induration. The case was essentially one of irritable breast, or neuralgia. Accordingly, she often suffered from sickness, especially in the morning. This symptom has existed for weeks together, occurring daily with great

violence, the morning vomiting being often bilious, and her sufferings aggravated by intense headache.

"This patient was under my care, at intervals, during two years, and I had tried every thing I thought of ineffectually: belladonna plaster, and liniments; the veratria ointment; leeches, and fomentations, (which did harm); embrocations of all sorts; carbonate of iron; aloetic purgatives; a course of mercury. The only thing I had recommended that did good was a Seidlitz powder every morning that the disposition to bilious vomiting lasted. Then I fancied I made out some tenderness of the upper dorsal vertebræ, and determined to try counter-irritation on the back. With two blisters only on the back she became, and has remained, perfectly cured of the pain in the breast."

We are led, as the casual turning over of the leaves offers further temptation to us, to make two other final extracts; they prove, as we suspected, that the author is a surgeon.

Encysted Hydrocele.—"An infant, not many weeks old, was brought to my house one evening from the hospital, with suspicion of strangulated scrotal hernia. The infant had been ailing two or three days; and there was a swelling on one side of the scrotum, looking like hernia, pressure on which gave the infant uneasiness. The swelling extended quite to the ring, and I was doubtful whether it did not enter it. Upon a careful examination, I found the tumour to consist of two portions; the lowest allowed light to be transmitted through it. Accordingly I punctured the lower part, and gave escape to the serum of a common hydrocele; then slightly enlarging the wound, I brought the bottom of the upper part of the swelling into view. What presented was evidently another thin sac containing fluid. I cautiously punctured it, and its whole contents turned out to be water. The case was encysted hydrocele, combined with one of the tunica vaginalis. There was no hernia.

"This case recurred to my mind this evening (Dec. 14, 1841), when an infant, a month old, was brought to me by Mr. Davidson, of North Street, Manchester Square, with symptoms of scrotal hernia. The swelling had been first no-

ticed fifty-six hours before, and on that day and yesterday the child threw up its food after taking the breast. To-day the vomiting had been of the same material as its alvine discharge. The tumor was tense, tender on handling, and manifestly continued into the spermatic passage. After trying ineffectually to reduce it, I operated, and found a fold of intestine of a dark mahogany colour. The stricture was extremely tight, and was divided with difficulty. The hernia was congenital. The infant recovered without an unfavourable symptom.

Hernia of the stomach.—"Hernia of the stomach is so unfrequent an occurrence, that I deserve the less blame for not having suspected it in the following case, which I attended with Mr. Angus, of Frith Street. An elderly woman, aged between 60 and 70, had three days before been taken with vomiting of a thick blackish liquor, which was thrown up in considerable quantities. She was cold, the vital forces depressed, the pulse weak and low. The tongue was black, with a thick moist fur. She had had for many years an umbilical rupture, as large as a man's head. She had before experienced two attacks of the same kind, but less severe and serious. On examining the umbilical tumor, I found it in no degree tense, nor was it particularly tender or uneasy on being handled, but its contents I could not return or lessen. The belly was soft, and in no degree sore on pressure. I viewed the case as one of hæmatemesis, and recommended astringents, with opium and stimulants. The patient died in twelve hours. A *post-mortem* disclosed more than half the stomach, of three times the natural thickness, in the sac, together with omentum and colon. The neck of the sac was very large; the contents of the sac had not been strangulated; they were not in the least discoloured. There was an abrupt line at which the natural texture of the stomach terminated, and the thickened portion commenced; the latter must have been out of the abdomen for years."

The following case is valuable only as a stock case, exemplifying a known occurrence and point of practice, but very unfrequently presenting this degree of aggravation:—

Contracted sphincter ani.—"A woman, aged 60, came from the country in July

last to consult me. Her ailments dated several years back, and were thought at the commencement to be piles; latterly they had been attributed to stricture of the rectum; and her daughter, accordingly, was in the use of frequently passing a small rectum bougie as high as it would go, stopped only by the pain it occasioned when she tried to force it further. The instrument used to go easily six or seven inches. But the patient had as usual no stricture of the rectum: and it was providential that the daughter had not forced the narrow bougie through the fold of bowel in which it caught, and so destroyed her parent's life. The symptoms, which had now for two or three years had one determinate character, were these:—the patient could pass liquid or fragmentary fæces only: when the fæces were liquid they passed easily and with little pain, except the griping and straining caused by the active drastic medicine which alone could accomplish this object; when the fæces were not liquid the pain, in the fruitless attempt to pass them, was intolerable. Upon examination, I found a narrow gristly sphincter, through which I could scarcely introduce my finger. This I divided freely, cutting it completely through on one side. Mr. Druitt, of Bruton Street, assisted me. A piece of lint was laid in the wound, and a dose of laudanum administered, to calm the pain and lock up the bowels. On the fourth day a perient medicine was given, and the bowels acted easily; and the soreness of the wound was trivial in severity compared with the former pain. The wound healed slowly in a month, and the patient left town in a state of perfect comfort; the bowels acting either of themselves or with mild aperients, and entirely without pain; all the symptoms having arisen from the contracted and indurated sphincter.

“The following case exhibits a combination of several accidents with that most rare complaint, stricture of the rectum, and did not promise, by any means, the successful termination which was obtained:—

Stricture of the rectum.—“E. Thomas, æt. 35, was admitted into the hospital on Sept. 12, 1833. She had been long a sufferer with a stricture of the rectum, which was situated three inches from the orifice. It was not very narrow, but

presented a sharp cord-like edge, and was acutely sensible. Between the stricture and the anus the bowel was extensively ulcerated; the ulceration reached to the anus, and implicated two large flat external piles. There was in addition a large hole, an inch in diameter, by which the rectum and vagina communicated. This aperture had been made nine years previously, in the Isle of France, by the improper application of caustic to destroy an inward pile. The stricture the patient had been aware of for six years.

“For some time previously to her admission the symptoms of disease of the rectum had become considerably aggravated, and were such as may be conjectured from the extent of lesion which I have described. She was never free from pain in the rectum unless when lying down. There was great discharge of matter from the part, with blood occasionally; difficulty in passing the fæces; incontinence of urine; pain and bearing down of the womb.

“This patient was kept in the recumbent position; a lavement of warm water administered every morning, with a drachm of the compound confection of senna, when necessary, at night; a mild mercurial ointment applied to the internal ulcerated surface; and, at her own repeated request, the outward piles were removed by the scalpel. The bougie was used every other day. Under this treatment the ulcerated surface healed, and the patient was discharged well on the 5th of November. I did not attempt to close the large opening into the vagina. It produced wonderfully little inconvenience.”

The preceding extracts, from the impartial manner in which they were selected, offer, it is probable, a fair sample of the work before us. Possibly we may take occasion to publish more from the same source. And we greatly hope that the useful example that has been thus set will be followed on an extensive scale, and that there will issue from the press a number of volumes entitled, Dr. —'s “Medical Facts,” Dr. —'s “Contributions to Medicine,” Dr. —'s “Medical Commentaries.” Circumstances originating, the reader will be sorry to learn, in our own illness, have thrown us in the way of an hour or two's conversation with many medical men, of every class, on medical subjects; and,

if we may be pardoned the presumption of saying so, we have been much struck with the various and sensible views, and original facts, that, more or less abundantly, each has poured forth. We think, indeed, that this may in part have been owing to the knack we have of sucking people's brains; for the remarks have come out at our eliciting, and were not those which flow from self-complacent garrulity. We have no doubt that every practitioner of observation, in the course of each year, meets with one or two cases at least deserving to be jotted down in his note-book, and to be published when they amount to some fifty or sixty. Sometimes, indeed, it luckily happens that, through meeting with several similar cases about the same time, the observer is led to compare their features, to analyse and exhaust the subject, and to produce a valuable monograph. But, in general, the desultory experience of the profession dies with its possessors; unless where, from unluckily being dilated, and diluted, and cooked up to make a book or an essay, its fate is to die of a literary tympanites even before its author.

Outlines of Botany, for the use of Families and Schools. By THOMAS GRAHAM, Under Graduate of the University of London. Delivered by the Author in a course of six elementary lectures at the Royal Polytechnic Institution. With plates. London. Palmer. 1841. 8vo. pp. 88.

For those who wish to run over the elements of the pleasing and attractive science of botany before they dip deeper into the subject, this little work will be found extremely useful. It is written in a very clear, unpretending style, and, as far as it goes, it may be relied upon as an accurate guide. At the end of each lecture a few questions are proposed upon the leading points which have been discussed, to induce the beginner to "halt occasionally that he may go forward the faster."

MEDICAL GAZETTE.

Friday, February 4, 1842.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

THE COLLEGIATE SYSTEM

WE shall now continue our observations on the details of this system, which are proposed in the paper published in the British and Foreign Medical Quarterly Review.

The third subject of which the writer treats, is the "Domestic Arrangements;" for which he merely proposes that there should be one or two dining-halls, in which all the students should dine, either together, or separated according to their standing in the school, and in which the tutors should dine each with his respective class. There can be no doubt that both the domestic comfort and the health of the students would hence derive great advantage; for the meals in the dining-rooms, to which, for the convenience of locality, they are now, for the most part, obliged to resort, are at once uncomfortable, unwholesome, and (in proportion to the fare which they supply) expensive. The dinner in the common hall might be provided at a less expensive rate than those now bought, and yet be considerably better. But the dinners should not be the only meals provided from the College establishment; commons should be supplied for breakfast, not in the hall, but to each student in his own rooms at a reasonable fixed price: and care should be taken to have respectable dealers recommended for supplying all kinds of necessary articles for the use of the students. Under this head, also, should be considered the plan for attendance: but this would necessarily vary much, according to the size and other arrange-

ments of the College: it would be essential, however, that no servants should be admitted but those appointed by the College authorities, that these should be under the immediate control of the tutors, and that a very jealous eye should be kept to prevent any system of extortion or of excessive gratuities.

On the subject of Religious Observances, of which the writer next speaks, it is, at present, very difficult to be definite. There can be no doubt that in the College chapel there should be, as he suggests, daily morning and evening prayers; nor any, that encouragement should be given to their being attended by all at least once in the day. There is nothing in which the effects of want of guidance and good example are more lamentably shewn than in the neglect which is found, among a great number of medical students, of all the ordinances of religion. It is not that, as is falsely charged upon them, they really despise them; they are not, as they are often accused, Atheists, or habitual scoffers at religion; but it is merely that having no regular place of worship provided for them, and the services of religion not being constantly set before them as a part of their duty, they gradually pass from the habit of attending to them, and grow, at last, utterly indifferent and thoughtless of them. This, at least, is the case with many: a few, in whom the principles of religion are more firmly implanted, resist the evil tendency of their position, and after a time become settled in good habits. But with the majority it is not so: and therefore every possible means should be adopted to render the services and duties of religion a part of the student's daily life.

It is only from the belief that this may be effected better without than

with any kind of compulsion, that we do not recommend the attendance at chapel to be made as absolutely necessary as that in the lecture-room. The advantages of the system which compels every student at Oxford and Cambridge to attend chapel a certain number of times in each week, and which makes this, as a kind of muster-roll, the test of diligence and regularity, have often been questioned: and though, perhaps, more may be said for than against the rule there adopted, yet certainly there are many reasons why it should not be imitated in a medical College. In these Universities, for example, a great number of the students are being educated for the ministry in the Church, and they may therefore be reasonably subjected to such compulsion: very nearly all of them also are members of the Church of England, and they can therefore have no plea of conscientious scruples against an attendance upon its services. But in a medical College the case must be very different: it must contain students with all sorts of belief, and therefore many who would refuse to be compelled to that which voluntarily they would, perhaps, gladly do. Besides, for the test of regularity, the lecture-room, or the attendance on the private instruction of the tutor, would be far better adapted than the chapel.

For the service of the chapel, it would, of course, be necessary that a special officer should be appointed in each College. In those attached to the Hospitals, it would be very desirable that the Hospital-chaplain should be also the chaplain and clerical superintendent of the College, a sufficient addition to his income being made from the College funds in remuneration for his ministerial services; and in those schools where, as at King's and University Colleges, other sciences are

taught besides the medical, the same office might be held in conjunction with some lectureship. But, whether he held any office or not, it would be essential to have some one person who might act as Principal, or Master of the College, and exercise an immediate control over all its affairs: and probably no plan would work better, than that the Principal should be, in every case, a clergyman of some standing, who should also act as chaplain, either performing or being responsible for the performance of the duties of the chapel. We say it would be essential to have such an officer; for although, supposing the College were established by a company, the proprietors would themselves, by a committee, ultimately manage all financial matters and overrule all others, yet they must depute some one who should act at all times as the highest authority next to themselves, and whose decisions should be reversible only by an appeal to them.

With regard to the *costume* of medical college students, we entirely agree with the writer that none is necessary. It would not fulfil in London any one of the purposes which it serves at Oxford or Cambridge. It would not give the student any impression that the position which he holds is superior to that of those about him who are not similarly attired; it would not give him any sense of responsibility lest he should disgrace his class; and, on the other hand, it would not be a mark by which he could be *proctorized*—for in London a strict system of out-door discipline could not be attempted. Besides, caps and gowns are inconvenient things in wards and dissecting-rooms; and, except in Hall, these are almost the only places in which students could be required to wear them.

Lastly, as to rewards for obedience, and penalties for breaches, of the College discipline, we believe the former

may be left out of consideration. Rewards and punishments are, indeed, commonly regarded as the two pillars by which every government must be supported; yet it is very certain that all civil and political governments have hitherto been maintained solely by the punishment of offences, and that no regular system of rewards for obedience to the laws can in them be ever carried out; and so it would, in all probability, be found in medical colleges. Obedience to the statutes must be required as a return for the advantages of being guided: no rewards further than these can ever be promised or given; though, so long as the rules of the society are obeyed, every student may be assured of reaping for himself an abundant reward for his industry and good conduct in the successful study of his profession. As for the infliction of penalties for disobedience and irregularity of conduct, we see no reason to fear lest the adoption of such discipline in one or more schools should render them less popular than those in which no such system is adopted, and the students are left entirely to their own inclination to be studious or idle, diligent or disorderly. We have never heard of an instance of students having refused to submit to any judiciously exercised discipline, from which they could reasonably expect to derive benefits, or from which they received, as they would from this, manifold daily comforts. Besides, suppose there should be a few who would refuse to submit themselves to college-rules; they would leave, or be dismissed, and go to some school where they were not so controlled; and we are very much mistaken if they would not soon impart to it such a character as would be injurious rather than beneficial to it: certainly, they would give it a reputation sufficiently ambiguous to make all parents, and all students who wished to learn their profession,

very anxious to avoid it. The endeavour to obtain favour among students by being less strict than their colleagues in requiring attendance upon lectures, &c. has often been tried by individual teachers, and it has invariably resulted in their own damage. Their fate may be an example of that of those schools which, when the collegiate system has been introduced into others, still persist in being without discipline. What we have often said of the knowledge required of students, is almost equally true of the government of them—require what you please, so that your demands are not such as it is really impossible for the majority to comply with, and you will have it granted without a murmur.

In what we have said of the impossibility of establishing a system of rewards, we only mean that it is impossible thus to encourage obedience to the laws of the College. It is by no means the same with regard to awarding of honours and prizes for successful study in the different branches of medical science. On the contrary, we anticipate that it will be one of the results of the adoption of the collegiate system that these will be much more sought after, and that the whole plan of school examinations will be materially improved. It would be advisable, for example, if a College were established, that some of the prizes, which now consist of books or medals, should embody some pecuniary advantages; that, for instance, “lodging or rooms should be given as a prize to the most deserving students for one or two years.” Indeed, there can be no doubt that one effect of the system will be to increase the value of the immediate rewards for knowledge among the students; for, to take the lowest view of the case, a greater number of persons will be interested in the success of each school: the proprietors of the Colleges,

for instance, will look for good interest for their money, and to get it will not hesitate to spend some in scholarships, and other advantages, which they will hold out to the more successful among their students. In short, though it will be done, perhaps, with much of the trading spirit inseparable from the plans of the present day, we do not despair of seeing medical colleges in London with well-paid fellowships and scholarships, and all the other advantages that accompany the excellent educational system of Oxford and Cambridge—the universities which may be in these, as in nearly every other respects, our models.

ROYAL MEDICAL & CHIRURGICAL SOCIETY,

Jan, 25, 1842.

DR. WILLIAMS, PRESIDENT, IN THE CHAIR.

On Tubercles of the Brain in Children, with a Tabular View of 30 cases of the affection.
By P. HENNIS GREEN, M.D. [Communicated by Dr. T. H. Burgess.]

An analysis of 30 cases of tubercle of the brain is laid before the Society by the author, preparatory to a more extended communication on this subject, which he promises to afford.

After noticing the importance of extended post-mortem researches, with a view to the pathology of the brain, so as to comprehend lesions of the medulla oblongata, he concludes with some general remarks on his tabular view. In his 30 cases, the ages, he observes, varied between 19 months and 12 years.

With respect to sex, 14 were boys, 16 girls.

In four cases no cerebral symptoms existed during life; in two, only periodical headache; in two, deafness and purulent discharge from the ear. In the remaining cases, head-ache, vomiting, amaurosis, convulsions, weakening of intellect, were observable; the duration of this chronic state varying from one month to three years.

Nine died with acute hydrocephalic symptoms, a few with symptoms of softening, the rest of consumption, small-pox, &c.

The number, volume, and site of the tuberculous masses, varied considerably in different cases.

A discussion took place relating chiefly to the degree in which the pathology of tubercles of the brain was known in England, Dr. Addison, particularly, stating that he believed the occurrence of the disease was so familiar to practitioners that in many obscure chronic affections of the brain, it was almost confidently expected that tubercles would be found either in the substance of the brain or in its membranes.

A case of Spontaneous Dislocation and Anchylosis of the First and Second Cervical Vertebrae. By EDWARD J. SPRY, Esq. Surgeon to the Royal Cornwall Infirmary. [Communicated by W. Coulson, Esq.]

The patient, in this case, was a shoemaker, and, at the time of his death, was 30 years of age. He was a muscular man, of moderate stature, and from his youth had had a stiff neck. He always carried his head towards his left shoulder, and it moved along with the trunk. From the account of his friends, it appeared that when about 9 years of age, he had an obscure complaint in his throat and neck, and that for a long time afterwards he had been obliged to turn his head with great caution. The manner of his death is thus described. "He had been drinking almost all the day, and towards evening he laid his head on the table of a beer-shop, and fell asleep. He continued in that posture about an hour, when, waking suddenly, he made an effort to raise himself, staggered across the room, and fell down without a groan or struggle." On examination, the brain was found intensely gorged with venous blood, and a small coagulum was discovered on the lower and outer surface of the right middle lobe. These were the only changes of moment observed in the brain. The atlas and vertebra dentata were firmly ankylosed together, a degree of displacement having previously taken place, of which the extent could hardly have been estimated without an inspection of the preparation which accompanied the paper. It must suffice to state here, that the dimensions of the space occupied by the medulla oblongata, as given by the author, were as follows:—

From side to side	0.9 of an inch.
From before backwards to the widest part	0.3 ,,
From before backwards at the narrowest part	0.2 ,,
From the right surface of the odontoid process to the opposite surface of the atlas	0.1 ,,

"This frightful displacement," says the author, "was, doubtless, occasioned by ulceration of the transverse ligament, and it is very probable that life might have been preserved for many years longer, but for the

indulgence of habits which added a vascular turgescence to the risk arising from a permanently constricted medulla."

Several subjects relating to the case were discussed. Among them, whether the death of the patient were due to the apoplexy, of which there existed indications in the fulness of the vessels and the small effusion of blood, or to pressure on the medulla oblongata by the displaced vertebra.

Mr. Solly particularly maintained the latter view, thinking that, had there been apoplexy, the man would not have died so suddenly with so small an effusion of blood, nor have got up and walked immediately before he died.

Mr. Hawkins, Mr. Arnott, &c., held, that the apoplexy might have been sufficient to produce death, and that the ankylosis of the vertebrae was so complete, that no sudden displacement or pressure on the medulla oblongata could have taken place.

The nature of the disease which had preceded the displacement and ankylosis was also questioned. Mr. Arnott regarded it as one of those cases now generally known, occurring particularly in childhood, of caries of the upper cervical vertebrae, leading, if recovery took place, to ankylosis, of which Mr. Lawrence had recorded several in the Transactions of the Society, and of which Rust had given a particular description.

Mr. Hawkins took a similar view of the case, and entered at some length into the pathology of diseases about the upper part of the column, relating several remarkable instances which had been under his care.

Mr. Paget suggested that in this and some other cases where the pressure on the medulla must have been great, that the disease occurred in the uterus before the perfection of the medulla oblongata was, through its connection with respiration, so essential to life. He mentioned a case of ankylosis of the occiput to the atlas, which he had lately seen, and in which there could be no doubt the disease was congenital.

Dr. Addison thought the history of this case proved it not to be congenital: he regarded it as more probably the result of some rheumatic affection.

Mr. Bransby Cooper considered that the remarkable displacement of the processus dentatus was only secondary: that the original disease had been in the articulation between the occiput and atlas, which had become fixed; and that the other distortions took place gradually in the efforts of nature to compensate for the loss of the natural movements of the head. He mentioned a case which had happened under Mr. Cline, in which, when a man was bowing, his head fell forwards and he died instantly. In that case, ulceration of the transverse ligament

had been going on gradually, and in the effort made upon it by bending the head, it had given way: something of the same, he thought, must have occurred in this instance.

Mr. Hawkins alluded to some cases of what was, he believed, improperly called spontaneous dislocation of the cervical vertebræ, and which were supposed especially to result from suddenly turning the head round. In two cases he had seen all the signs usually described were very marked, but both got well by ordinary antiphlogistic treatment and rest without any attempt at forcible reduction. He believed there was not a case on record in which this kind of spontaneous luxation had been verified by dissection.

Mr. B. Cooper and Mr. Arnott mentioned one from Boyer's works in which a partial dislocation, produced in this manner, was found after death.

A case of Malignant Cholera which occurred at Beaconsfield in the year 1819. By NATHANIEL RUMSEY, M.D. [Communicated by Dr. Robert Lee, F.R.S.]

The circumstance deserving notice in this case is, the year of its occurrence. The symptoms mentioned are those of the disease; but some characteristic symptoms are not adverted to, as present in *this* attack.

A careful post-mortem examination is appended.

THE STATE OF THE MEDICAL PROFESSION.

At a Meeting of the Council of the North of England Medical Association, held Jan. 12th, 1842, it was resolved:—

1. That a Memorial (of which the following is a copy) be presented to the Secretary of State for the Home Department, relative to the present state of the Medical Profession in Great Britain and Ireland.

2. That it be a recommendation of this Council that Memorials of a similar character be forwarded to the Home Office from the profession generally throughout the United Kingdom.

MEMORIAL.

To the Right Hon. Sir James R. G. Graham, Bart. M.P. &c. Her Majesty's Principal Secretary of State for the Home Department.

The Memorial of the Council of the North of England Medical Association assembled at Newcastle upon Tyne, January 12, 1842.

Sir,—Your memorialists deem it their duty to the body which they represent, to take the present opportunity of urging upon

Her Majesty's Ministers the claims of the medical Profession to their attentive consideration. The anomalous and unsatisfactory state of that profession, they have reason to believe, cannot be unknown to you, Sir, it having been made the subject of investigation by a Committee of the House of Commons nearly eight years ago, when a mass of most important evidence was collected—evidence which, to every impartial mind, must have afforded ample proof of the necessity of extensive amendment in the regulation of medical affairs in this country. Representations bearing upon this point were repeatedly made to your immediate predecessors in the Home Office, and very numerous petitions in favour of Medical Reform have been presented to Parliament during the last few years; but no legislative measures have yet been adopted for the correction of the defects and abuses of which your memorialists have to complain. Firmly persuaded, however, that the question of Medical Reform is one which involves the interests of the entire community, not less than those of the members of the medical profession, they trust that it may not be thought unworthy the serious attention of Her Majesty's present advisers.

A slight degree of reflection will prove, that the public are deeply interested in the proper administration of medical affairs, and in the good government of the medical profession; while but a superficial acquaintance with the subject will show the inadequacy of existing laws and institutions to promote such government, or to secure, to their full extent, the services which a well-constituted profession might render to the State.

There are in the United Kingdom of Great Britain and Ireland, not fewer than nineteen corporations or bodies which have control over medical affairs, whose ostensible object is to supply the kingdom with properly-qualified medical practitioners, and to guard a "credulous public from the practices of wicked, avaricious, and ignorant men." It is notorious, however, that no such protection is exercised, and that in no civilized country is so much fraud and imposition allowed to be practised in connection with the treatment of diseases. In this particular, the medical institutions of the country have not fulfilled the terms of their charters of incorporation. They have not even afforded the public the means of distinguishing the parties who are from those who are not qualified to undertake the responsibilities of the healing art.

There is no grade or rank in society which is not interested in the education of those persons on whose knowledge and judgment they are to depend in times of sickness. In this respect, the operation of existing arrangements is defective and censurable in

the extreme ; nor is it possible that it should be otherwise, since the regulation of this important matter is entrusted to a number of institutions, between which there exists no bond of union or community of interest. With scarcely an exception, each of the aforesaid medical bodies is at liberty to make its own bye-laws, relative to the education and examination of persons who are desirous to obtain degrees, diplomas, or licenses. They are furthermore entirely irresponsible and have a peculiar interest in the granting of such degrees, diplomas, &c. ; and as the regulations of one differ from those of the rest, an inducement is held out for the student to resort to that establishment from which his credentials are attainable on the easiest terms. It may also be affirmed, that the examinations are for the most part conducted in a manner but little calculated to test the *practical* acquirements of the candidate, or to ascertain his fitness for the duties of a sick chamber. In some instances, moreover, the examinations are of an incomplete and partial character, testifying merely that the candidate has studied certain departments only of the healing art, whilst his acquaintance with other branches is not inquired into. The Apothecaries' Company of London, for example, is not authorized to examine candidates either in Surgery or Midwifery, while the examinations at the College of Surgeons of London are limited to Anatomy, Physiology, and Surgery. Nevertheless, the licentiates of the former body are the *legally*-qualified practitioners of England. They style themselves surgeons, and act as such ; while the members of the College of Surgeons are permitted, to a very great extent, to act as general *medical* practitioners, although their knowledge of Medicine has not been tested by examination.

The disregard of the public exigencies and requirements by the London Colleges of Physicians and Surgeons, was strikingly illustrated by the circumstances connected with the passing of the Apothecaries' act in the year 1815, when, through the apathy of these bodies, the examination and licensing of the mass of English medical practitioners were committed to a trading company of apothecaries ; and now, as if to screen themselves from the censure justly incurred by such supineness, they declare that the public have divided the profession into "physicians," "surgeons," and "apothecaries," an assertion which, your memorialists would submit, is not founded on fact. The division, as now existing, is an arbitrary one, made and upheld by the corporations, and neither based upon right principles, nor adapted to the wants of the community. The latter require a class of medical attendants who have been educated and examined in each department of the healing art, and such

a class the above-named corporations have refused to supply.

Your memorialists have also to represent, as one of the evils at present existing in the profession, and affecting the public, that the latter are frequently misled by degrees and titles which do not in any manner indicate the qualifications of their possessors, inasmuch as they are procurable simply on payment of specified sums of money.

The neglect in this country of questions connected with public hygiene, and the backward condition of medical jurisprudence and police, &c., are additional evidences of a defective administration of medical affairs.

Your memorialists have thus endeavoured to show, that the welfare of society at large, in relation to Medicine, has been neglected by the chartered medical bodies of this kingdom ; and it may be safely affirmed, that the interests of their own members have been equally disregarded by these institutions. The grievances of medical practitioners may be briefly summed up, as consisting—in the unfair competition arising from the dissimilarity in the qualifications of candidates for medical practice and honours—the general neglect of their interests, ensuing from the want of a proper organization in the professional body throughout the empire—the absence of a protective power for the qualified practitioner, against the encroachments of unqualified and ignorant pretenders to medical knowledge—the exclusion of their *members* from all control over the management of most of the medical corporations.

Upon these particulars it is unnecessary to dilate, their truth having been acknowledged by common consent. The evidence taken before the Parliamentary Committee in 1834 fully exposed the many abuses prevailing in the corporate bodies, and the line of policy they have hitherto adopted has rendered them justly unpopular with the profession. That they might, under appropriate management, become useful *parts* of an improved organization, your memorialists feel assured ; and, since the year 1834, it must be granted, that sundry changes have taken place in their respective constitutions, and that their proceedings have been characterized by greater liberality and energy than before that period ; but no reform of these institutions, *individually*, can, it is conceived, effect what is required to place the profession on a proper footing. The powers vested in the corporations are suited to the accomplishment of certain objects *only*. They are of a limited character, and not adapted to the superintendence of the profession *as a body*, how well soever they might, *with certain modifications*, promote the welfare of the particular departments to which they belong.

For the *general* direction and control of

medical affairs in each division of the United Kingdom, your memorialists are of opinion, that a presiding body or council is required, which shall be responsible to the crown and to the profession.

To obviate the disadvantages arising from the dissimilitude in the regulations of the various examining and licensing boards, and to insure the general competency of all future candidates for medical practice, your memorialists conceive that a definite qualification should be established, without which no person should receive a license to practise; that such qualification should be made uniform throughout England, Scotland, and Ireland; and that such license should convey the right to practise every branch of the profession, and in any part of the United Kingdom.

The possession of a NATIONAL LICENSE TO PRACTISE would by no means interfere with the existing classes of *Physicians, Surgeons, and General Practitioners*, although a contrary statement has been pertinaciously adhered to by the opponents of Medical Reform, and by those who are interested in the continuance of the present state of affairs; *neither would it take from any University or College the privilege of educating students, or of granting degrees, diplomas, or other honorary distinctions.* The national license would certify, that the licentiate had been educated and examined in ALL the branches of medical science, to what branch soever he might more *especially* devote his attention, either in study or in practice; and although the London corporations *collectively* have declared, that "a course of study and a test of competency adapted to each particular branch of the profession, affords a much surer guarantee for a high standard of qualification in each branch, than could be obtained by a course of study and examination common to all," the most eminent members of their councils have *individually* pronounced, that the education of the Physician and Surgeon should be the same; and, as the *General Practitioner* combines in his practice the practice both of the physician and the surgeon, it follows that ALL practitioners should, *in the first instance*, be similarly qualified. Degrees and titles in Medicine and in Surgery (with admission into the Colleges of Physicians and Surgeons) would, under such an arrangement, be (as they now are) open to those who might be anxious to procure them. The *honorary* diplomas, granted by the College of Surgeons in London, have *increased* in number since the passing of the Apothecaries' Act, although the course of study and examinations requisite for their attainment are entirely self-imposed on the part of candidates. Physicians residing in the provinces have also, at various times, connected themselves with the London College of Physicians, although the authority of

that college is virtually restricted to the metropolis, and its immediate neighbourhood.

A general and properly-classified registration of all legally-recognised practitioners, would form a necessary part of an improved system of medical government; and, although not so sanguine as to expect that any legislative enactment can wholly root out the evils of irregular and unauthorised medical practice, your memorialists trust that measures may be taken by the executive to counteract, as far as possible, the manifold injuries inflicted on society by such practice.

The above statements are respectfully submitted to you, Sir, in the earnest hope, that the momentous subjects to which they relate may receive the immediate attention of Her Majesty's Government.

Signed, on behalf of the Council of the Association,

T. E. HEADLAM, M.D. *President.*

CHARLES T. CARTER, *Hon. Sec.*

MEDICAL ATTENDANCE ON THE POOR.

To the Editor of the Medical Gazette.

SIR,

As the contents of a letter I have this day received from the President of the Royal College of Surgeons will be interesting to many of the readers of the MEDICAL GAZETTE, I have enclosed a copy, and shall feel obliged if you will insert it in your next publication.—I am, sir,

Your obedient servant,

THOMAS HOVELL.

Clapton, Feb. 1, 1842.

My dear sir,—I am glad to have it in my power to inform you, that I have again conferred with the Poor-Law Commissioners on the subject of the various grievances of which the surgeons employed under the Poor-Law complain; and they have been pleased to make such alterations in their regulations about to be issued, as will redress nearly all of them: and I have a confident hope that, in the course of a reasonable time, the whole will be removed.

From the various communications I have had at different times with the Poor-Law Commissioners, and particularly with Mr. G. C. Lewis, I am convinced that the members of the medical profession have firm friends in them: and I rely as much on their kindly feelings as on the justice of the claims which may be placed before them.

A careful inquiry has satisfied me that the total sum paid by the different Boards of Guardians to all the practitioners in England and Wales in charge of the poor, is not half what it ought to be, according to any of the computations or calculations which have

been made, either by doctors or Assistant Poor-Law Commissioners on the subject; and if the Guardians of the poor will not consent to give a reasonable remuneration to a medical man for his attendance on the poor, the public must not expect them to be fairly and honestly taken care of.

I beg you will have the goodness to communicate the contents of this note to the gentlemen who favoured the Vice-Presidents and myself with their company at the College, and that you will believe me to be

Most truly yours,

G. J. GUTHRIE, President.

4, Berkeley Street, Feb. 1, 1842.

T. Hovell, Esq., Clapton.

MEETING OF MEDICAL STUDENTS.

To the Editor of the Medical Gazette.

SIR,

I TAKE the liberty of forwarding to you the enclosed Resolution; and requesting, if not too great a favour, its insertion in this week's MEDICAL GAZETTE.—I have the honour to be, sir,

Your obedient servant

C. G. MOTT.

University College, Feb. 1, 1842.

AT a meeting of Medical Students, held at the Crown and Anchor Tavern, on Monday, the 31st of January, it was resolved unanimously,—That it was expedient that a General Meeting of Students should be held at some future period, to take into consideration their present prospects, and the means of improving the same: that notices should be sent to the different Metropolitan Medical Schools requesting Four Students, at least, from each to attend, at seven P.M., on Saturday, the 12th of February, to decide upon the period of the General Meeting, and the measures to be brought forward at the same.

ON THE TREATMENT OF

OLD FRACTURES BY DIVISION OF TENDONS.

BY. DR. DIEFFENBACH.

DIEFFENBACH has several times, in old cases of fracture of the patella or the olecranon, where the portions were dragged far apart, divided the adjacent tendon so as to be able to bring the portions together, and, by friction of them one upon the other, to excite such action as might end in the formation of a shorter and firmer bond of union. In some cases considerable benefit was obtained after all other means had failed; in others the result was negative. Two examples are detailed; in one, an old

ununited fracture of the ulna, he divided the tendon of the triceps, fixed the upper portion of the bone in its right place by a bandage, and every fourteen days rubbed it well against the lower one: in three months the union was firm. In another example, an old distantly united fracture of the patella, he divided the ligamentum patellæ and the rectus femoris about three inches above the patella; then, by an appropriate bandage, and constantly drawing the separated portions more closely together, he obtained, at the end of some months, a complete hardening of the interposed substance, and a considerable amelioration of the patient's state.—*Casper's Wochenschrift*; and *Brit. and For. Med. Rev.*

EXTIRPATION OF THE SUBMAXILLARY GLAND.

BY M. COLSON, OF NOYON.

It has been questioned, especially by M. Velpeau, whether this operation was really ever performed, or whether the supposed diseased salivary gland was not in each case merely a diseased submaxillary absorbent gland. In the present case, the evidence of its having been truly the submaxillary gland which was removed seems nearly complete. The patient was 65 years old, and had had for eleven years a cancer of the lower lip, which had been treated by a variety of caustics. At the time of the operation this was as big as a large nut, and was ulcerated extensively; and there was besides, towards the right side of the base of the lower jaw and below it, a lobulated tumor, which was supposed to consist of enlarged absorbents. After removing the cancer of the lip, the author proceeded to this tumor, but was astonished to find that it was situated much more deeply than he had expected, and that, in the removal of it, it was necessary to divide the lingual branch of the fifth nerve, and the submental artery; and to expose the facial artery, the digastric, stylo-hyoid and mylo-hyoid muscles, and the hypoglossal nerve. The operation was with much difficulty accomplished; and the tumor when removed was found to consist of the submaxillary gland (which was recognised by its being still enclosed in its fibrous capsule) and of a few enlarged, but not otherwise diseased, absorbents. The gland was converted throughout into encephaloid tissue, which was in parts softened and nearly fluid; it measured an inch and a half in one direction, and about an inch in the other. The patient rapidly recovered from the operation, and eight months after remained perfectly well.—*Annales de Chirurgie*; and *Brit. and For. Med. Rev.*

ON A SAFE MODE OF REMOVING
FOREIGN BODIES FROM THE
KNEE-JOINT.

BY DR. GOYRAND.

DR. GOYRAND'S mode of operating is a modification of the subcutaneous method as originally proposed by M. Dufresse-Chaisaigne, and Dr. Guerin. The foreign body is brought to the upper and outer angle of the articular cavity, and held fixed there. A small incision is made with a narrow bistoury through the skin at a little distance from this point, and the knife is pushed forward below the skin till it comes in contact with the synovial membrane over the foreign body, which it incises to a sufficient extent to allow the foreign body to escape into the subcutaneous cellular membrane. The external wound is then healed up, and this generally is completed within twenty-four hours or so. Time is then allowed for the internal wound to heal; and after eleven or twelve days a simple incision is made over the foreign body, and it is extracted. M. Goyrand adds, that when the foreign body in its new situation gives rise to no inconvenience, it appears to be unnecessary to interfere with it. The danger of opening the joint is by this mode of operating completely avoided; and what was formerly one of the most dangerous operations is by this means rendered both a simple and a safe one.—*Annales de Chirurgie Francaise et Etrangere*; and *Edin. Med. and Surg. Jour.*

RECEIVED FOR REVIEW.

Dr. G. T. Hayden's Physiology for the Public, in a series of Lectures, No. I.

Rev. Dr. Peter Parker's Statements respecting Hospitals in China.

Dr. De S. Perrengron's Popular Treatise on the Stomach.

Dr. W. F. Montgomery's Observations on the Incipient Stage of Cancerous Affections of the Womb.

Dr. Graves on the Treatment of Various Diseases.

Dr. E. O. Hocken's Essay on the Influence of Constitution in the Production of Disease.

The Prescriber's Pharmacopœia, containing all the Medicines in the London Pharmacopœia. By a Practising Physician.

Dr. A. B. Shipman's Report of the Facts and Circumstances relating to a Case of Compound Fracture, and Prosecution for Mal-Practice.

Dr. Hocken on the Pathology of Hysteria.

Dr. T. Graham's Outlines of Botany.

Dr. A. Markwick's Translation of Bell's Essay on Diabetes.

Dr. R. Willis on the Treatment of Stone in the Bladder.

ROYAL COLLEGE OF SURGEONS.

LIST OF GENTLEMEN ADMITTED MEMBERS.

Friday, Jan. 28, 1842.

J. G. Kemp.—E. B. Tuson.—J. S. Williams.—E. Humby.

A TABLE OF MORTALITY FOR THE
METROPOLIS,

Shewing the number of deaths from all causes registered in the week ending Saturday, Jan. 22, 1842.

Small Pox	12
Measles	33
Scarlatina	7
Hooping Cough	77
Croup	10
Thrush	2
Diarrhœa	5
Dysentery	2
Cholera	0
Influenza	1
Typhus	22
Erysipelas	6
Syphilis	2
Hydrophobia	0
Diseases of the Brain, Nerves, and Senses ..	152
Diseases of the Lungs, and other Organs of Respiration	374
Diseases of the Heart and Blood-vessels	24
Diseases of the Stomach, Liver, and other Organs of Digestion	70
Diseases of the Kidneys, &c.....	8
Childbed	8
Ovarian Dropsy	2
Disease of Uterus, &c.	2
Rheumatism	2
Diseases of Joints, &c.	3
Ulcer	0
Fistula	0
Diseases of Skin, &c.....	1
Diseases of Uncertain Seat	132
Old Age or Natural Decay.....	109
Deaths by Violence, Privation, or Intemperance	38
Causes not specified	5
Deaths from all Causes	1110

METEOROLOGICAL JOURNAL.

Kept at EDMONTON, Latitude 51° 37' 32" N.
Longitude 0° 3' 51" W. of Greenwich.

January.	THERMOMETER.		BAROMETER.	
Wednesday 26	from 20 to 41		29·46 to 29·04	
Thursday . 27	32 41		29·50 29·72	
Friday . . 28	26 38		29·72 29·84	
Saturday . 29	23 48		29·85 30·00	
Sunday . . 30	29 39		30·12 Stat.	
Monday . . 31	30 43		30·01 29·89	

February				
Tuesday . . 1	29 43		29·99 30·06	

Wind, S. on the 26th, W. on the 27th, N.E. and N.W. on the 28th, S.W. and N.W. on the 29th, N. on the 30th, S.W. on the 31st ult.; N.W. on the 1st inst.

On the 26th, overcast, raining nearly all the day. The 27th and following day, generally clear. The 29th, morning clear, otherwise cloudy. The 30th, afternoon clear, otherwise overcast. The 31st ult., a general overcast, raining heavily and fast during the evening. The 1st inst., generally clear.

Rain fallen, 12 of an inch.

CHARLES HENRY ADAMS.

WILSON & OGILVY, 57, Skinner Street, London.

THE LONDON MEDICAL GAZETTE,

BEING A
WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

FRIDAY, FEBRUARY 11, 1842.

LECTURES

ON THE

PRINCIPLES AND PRACTICE OF
PHYSIC,

Delivered at King's College, London,

BY DR. WATSON.

Asthma: its nature; complications; exciting causes; and treatment. Diseases of the œsophagus: inflammation; stricture; spasm; dilatation.

I MUST not leave the subject of thoracic disease without saying a word or two respecting *asthma*: a complaint which might have been properly arranged among the *nervous spasmodic diseases*, in a former part of the course. But I purposely deferred speaking of it, because, though in many instances purely spasmodic, and independent of any discoverable faulty structure, it is still more often connected with organic diseases of the heart, or of the lungs: which diseases had not then been described.

I scarcely need caution you against the vulgar error of calling all kinds of difficult breathing by the name of asthma. You will be constantly meeting with persons who, labouring under some permanent embarrassment of the respiration, tell you they are asthmatic. They conceive that asthma is simply an inconvenient, and not at all a dangerous affection; and they please themselves with the notion—consumptive patients and their friends do this continually—that they are *merely* asthmatic. Asthma is dyspnœa, but dyspnœa is not *necessarily* asthma.

Asthma may be defined as being—great difficulty of breathing: occurring in paroxysms; accompanied by a loud wheezing sound of respiration; going off, after some hours, with more or less mucous expectoration; and unattended with fever. And

these paroxysms of dyspnœa are believed to depend upon a spasmodic constriction of the bronchial tubes.

To go rather more into detail: the phenomena which constitute and characterize a fit of asthma, are somewhat as follows:—The patient, if he has previously suffered under the disease, has usually some well-understood warnings that an attack is hanging over him. Loss of appetite; frequently much flatulence and eructation; languor, irritability, drowsiness, oppression, chilliness; and he goes to bed ill and uncomfortable. The dyspnœa comes on generally after midnight, about two or three o'clock in the morning; often during sleep; and the patient wakes with a sense of tightness and constriction about the chest, and an inability, as it seems to him, freely to expand it. He is obliged at once to rise up; and he sits, leaning forwards, with his knees drawn up, his elbows on his knees, and his head supported by his hands, labouring for his breath, and making such a loud wheezing noise as to be audible at a considerable distance. He experiences a strong desire or necessity for fresh air; opens the door of his room and goes out upon the stair-case, or flies to an open window, even in very cold weather; and remains there, with his head out, sometimes for hours. That he can do so with impunity is a strong presumptive proof that it is the nervous system which is principally affected in these cases. His extremities at the same time are usually cold, and his countenance is distressed and haggard: while the trunk of his body may be wet with perspiration. Sometimes the face is a little flushed and turgid; but more commonly it is somewhat pale, and shrunk. The pulse is often small, feeble, even irregular; and in many instances there is much palpitation of the heart. At other times the pulse remains undisturbed. If urine be passed, as it frequently is, at the beginning of a fit of asthma, it is copious and watery, pale, and without smell, like the urine of

hysterical women. The bowels are also sometimes relaxed, with "something (as Dr. Forbes observes) of the impatient hurry and imperfection of spasmodic action." There may be some propensity to coughing, but the patient can hardly achieve a cough; and is so occupied with his breathing, that he can speak in an interrupted manner only, with difficulty and uneasiness. He has not, however, in general, any misgivings about the event of the attack, but looks forward with hope to the expected termination of the paroxysm.

"These symptoms often continue for many hours together; and particularly from midnight till morning is far advanced. Then, commonly, a remission takes place by degrees. The breathing becomes less laborious, and more full: so that the person can speak or cough with more ease. And if, as is usually the case, the cough brings up some mucus, the remission becomes immediately more considerable, and he falls into a much-wished-for sleep."

Paroxysms of this kind will often continue to recur for many nights in succession: remitting at length in their severity; and ceasing for a period, altogether.

During the intervals between these paroxysms, in the day-time, the patient *may* be perfectly well; but he seldom *is* so: though so great is the difference between his condition during the remissions, and in the paroxysms, that he declares, and perhaps fancies that he is quite well. You will mostly find, however, that he is short-winded; that he does not utter many words of a sentence before he pauses to take breath; that slight bodily exertion hurries his respiration; and that he is not easy in a horizontal posture, with his head low.

Although the dyspnœa is thus intermittent, or remittent, you are not to suppose that the paroxysms recur with the regularity of those of ague. The interval is of uncertain duration; and the circumstances of the paroxysm differ in different instances. I may remark also, that when the paroxysm ceases with little or no expectoration, the case is said to be one of *dry* asthma: when the expectoration is copious, it is *humid*, or *humoral* asthma.

Now this, I say, is looked upon as being essentially a spasmodic affection. Upon what grounds?

Why, in the first place, the patients have a *sensation* of constriction in the chest. An old gentleman whom I saw lately, and who is subject to fits of asthma, made use of the term *cramp* when he described what he felt about the thorax; and his attacks were always accompanied or succeeded by *actual* cramp of the muscles of the calves of his legs. This is no uncommon circumstance, this co-existence of decided spasm in other

parts; and it throws some light upon the nature of the disorder. Again, the rapidity with which the dyspnœa comes on, and the suddenness with which it often abates, resemble the caprice of spasm. The super-vention of extreme, sometimes enormous flatulence, and the secretion of hysterical urine, mark also the nervous character of the symptoms. So likewise do the *juvantia* and the *lædientia*, as I shall presently explain farther; the affection being suddenly produced by certain causes of irritation, and even by mental feelings—suddenly relieved, sometimes, by medicines which are reckoned antispasmodic. If we add to these considerations the fact that patients dead of asthma have often, on being examined, presented no vestige whatever of disease, either in the lungs or in the heart, we obtain very strong presumptive evidence, that the phenomena attending a fit of asthma are often the result of pure spasm.

But, if this be so, what are the muscles thus fixed in spasmodic contraction?

You are doubtless aware that the air-tubes are encircled with a series of little fibres, or bundles of fibres. I have more than once shewn you these, exaggerated by hypertrophy, in the larger bronchi. They have been traced, by Reissessen, in tubes of a very small diameter. Laennec states, that he had distinguished them in bronchial ramifications less than one line across. Now, supposing these circular fibres to be muscular, it becomes at once, and *à priori*, likely that they, no less than other muscles, should be liable to spasm. And the phenomena of asthma prove, to my mind, that they are so. I give you my opinion that they are muscular; but I am bound to tell you, at the same time, that better anatomists than I am dispute this point, or doubt it. Analogy would say that the fibres, thus disposed, are slender muscles, like those which surround the intestines and the urinary bladder. The microscope, I am told, scrutinizing their minute texture and appearance, asserts that they are not. But a test, less fallible than the microscope, has practically settled the question. Dr. Williams has recently demonstrated, by a set of ingenious and satisfactory experiments, that the lungs and air-tubes are actually *contractile* to a very considerable degree, under electrical, chemical, and mechanical stimuli. The contractions take place steadily and deliberately; and are followed, as soon as the stimulus is withdrawn, by an equally gradual relaxation. This is very like tonic spasm. The contractions were rendered apparent by means of a bent glass tube, containing coloured liquid, and adapted to the windpipe of an animal just deprived of life. The column of liquid in the glass tube would of course be readily moveable by any contraction of the

lungs and air-tubes, causing pressure of the included air against it. In one of the experiments, "on passing a galvanic current from the margin of the lungs to the insertion of the tube in the trachea, the fluid rose quickly, but gradually, nearly two inches; sunk speedily on breaking the contact; again rose upon completing it; but fell slowly when the current was continued for some seconds," *i. e.* when the irritability of the tissues was temporarily exhausted. Temporarily, I say, for on waiting two or three minutes between each application of the galvanism, the liquid was raised again and again for upwards of an hour; till, in fact, the organic life was extinct. Is not all this exceedingly like the behaviour of parts acknowledged to be muscular, under similar influences?

The phænomena were not occasioned by any general shrinking of all the pulmonary tissues. For when the lungs were cut across by sharp scissars, at right angles to the air tubes, and the open sections of these tubes were galvanized, they were *seen* to contract to one half of their former diameter; and even to become smaller than that. The contraction was the most distinct in the middle-sized tubes, being about the bigness of a straw: but it was sensible enough in the trachea, which was sometimes so far reduced in dimensions, that the ends of its cartilaginous rings came together.

A foreign experimenter, M. Valentin, carries us a step nearer to the full solution of this interesting question. He found that the rings of the trachea could be made visibly and distinctly to contract *by irritating the par vagum*.

Upon the whole, we may safely conclude that asthma is one of the spasmodic disorders of the excito-motory system of nerves. I believe, moreover, that, as in most other disorders of the same class, the spasm may be of centric, or of eccentric origin. In the eccentric form, the par vagum is doubtless the afferent nerve; and the impression it conveys to the medulla oblongata is reflected, through associated motor nerves, upon the bronchial muscles. The centric variety results from a similar impression originating in the nervous centres; which respond, mysteriously, to certain feelings of the mind.

I have never had a favourable opportunity, since I became aware of the value of auscultation, of listening to the sounds of the breathing during a paroxysm of pure spasmodic asthma. But they who have enjoyed such opportunities declare that no respiratory murmur, or very little indeed, can be heard. And an attentive inspection of the outside of the chest shews, that amidst all the tugging and heaving for breath, the expansion of the thorax is very limited. The patient cannot open his lungs

as it were: and what air does get in, has a difficult and narrow passage, as the wheezing noise demonstrates. Laennec affirms, that if the patient, after holding his breath nearly as long as he can, attempts a quiet and gentle inspiration, the spasm may often be overcome as if by surprise; and, for a few seconds, the entrance of the air into the cells may be heard in a clear and even puerile sound. If this be true, it is a strong additional proof that the obstruction to the admission of air was really owing to a tonic contraction of the little muscular fibres of the bronchi and their ramifications.

The hereditary nature of asthma is perfectly consistent with the same theory. It is one of the maladies which are distinctly transmitted—the disposition to them, I mean—from parents to children. And like other spasmodic disorders, it facilitates its own return. When it has once occurred, it seldom fails to happen again and again.

But though I believe, for the reasons I have now mentioned, that asthma, in the restricted sense of that term, is purely a spasmodic affection; yet I know also that it is very frequently indeed combined with organic alterations within the thorax. These changes of structure are to be regarded as so many strongly predisposing causes. They induce a readiness to take on spasmodic action: and some of them are perhaps aggravated, or even produced, by the fits of asthma, upon which they afterwards react injuriously. Judging from my own experience, I should say that genuine uncomplicated spasmodic asthma was *rare*.

The organic diseases with which spasmodic asthma is often found connected, are principally emphysema of the lungs, and structural changes in the heart and great blood-vessels. It is extremely probable that the first step towards the production of the spasm, consists in some altered condition of the *circulation* through the lungs. The chilliness of the surface, and the sensation of want of air, make it likely that the blood accumulates in the lungs at those times: that there is congestion of the membrane, as well as spasm of the circular fibres. And it would seem that, in the humoral asthma, the congestion is relieved by a copious secretion of mucus; and that, with the congestion, the spasm also subsides and disappears. You will observe that very generally the paroxysms come on during the first sleep: at which time, as Dr. Alison has suggested, "the blood is perhaps in fullest quantity, its movements slow, and its congestion in internal parts easiest, because it is least solicited to the organs of sense or locomotion." But there seems to be another reason for this remarkable circumstance. Respiration is mainly an automatic act; but it also obeys the will. During sleep this

moderating influence of the will is suspended. Those changes of posture, and those voluntary alterations in the rate of breathing, which are wanted to balance and correct the commencing derangement of the pulmonary circulation, and which are prompted at once during the waking state, do not occur: until at length the derangement reaches that pitch at which it provokes spasmodic contraction, and rouses the sufferer.

This same congestion, leading to spasm, sometimes passes into a slight form of inflammation; and we have symptoms of bronchitis. And these symptoms may remain manifest even during the intervals of the paroxysms. It appears probable also that the vesicular emphysema of the lungs, which so often accompanies asthma, is increased by the paroxysms, even if it be not, in all instances, originally induced by them. In either case, there will be some abiding dyspnoea between the fits.

Many of these asthmatic patients have just healthy lung enough to breathe with, in tolerable ease and comfort, under ordinary circumstances; and dyspnoea is brought on whenever even a slight additional demand upon the respiration anyhow arises. Hence, as I stated before, flatulent distension of the intestines, undue repletion of the stomach by an excessive meal, the recumbent posture, all of which cause pressure against the under surface of the diaphragm, may suffice to bring on the fit. Hence also, probably, in part, its frequent occurrence in the night-time.

Asthma is a disorder which is incident to both sexes, but it is much more common in men than in women. It is incident to all ages also; but it belongs more to adolescence, and to the middle portion of life, than to its extremes. It is not, I think, a common disease prior to the age of puberty: yet instances of it do occur at an earlier period than that. I have lately seen a boy of eight or nine, who has had several well-marked attacks of pure asthma. Nor does it often *begin* to shew itself in old age. Sometimes, after plaguing the subject of it for several years, it leaves him altogether. The chronic dyspnoea, with occasional irregular exacerbations, which is so frequent a disorder among old people, and which always depends upon organic disease, is not to be confounded with true asthma. It is said that asthmatic persons are exempt from phthisis: and I understand that one physician in this town, who announces that consumption is curable, maintains the doctrine of the incompatibility of phthisis and asthma; and endeavours to bring about the latter, that he may protect his clients from the former. It *may* be that persons affected with genuine asthma seldom become the victims of pulmonary consumption: but I

am sure the rule is not a universal one. One of my earliest friends had from time to time, while we were schoolfellows, and long afterwards, the most exquisite fits of spasmodic asthma. At length, when he was between thirty and forty years old, they wholly ceased: whereupon he greatly congratulated himself. But they only yielded before a worse disease. He began, in a few months, to spit blood: and in a few months more he died of well-marked phthisis. Our lamented principal, the late Mr. Rose, afforded another sad example of the same sequence. And I have known two or three families in which one individual was subject to asthma, while others were scrofulous and phthisical.

The exciting causes of the asthmatic paroxysm are manifold; and some of them curious. They seem to be reducible to two classes. 1. Particular states of the atmosphere, which irritate or offend the mucous surface of the air passages; or rather, some of the fibrillæ of the *par vagum*. 2. Certain subtle influences which affect in a peculiar manner, the nervous system. All the known exciting causes of catarrh, are therefore likely to bring on attacks of asthma in the predisposed. But there is a singular caprice in asthmatic patients in this respect. Some persons, subject to the disorder, are unable to breathe in the thick smoky air of London; require a high and clear situation; and respire easiest in "the difficult air of the keen mountain top." Others can nowhere breathe so comfortably as in low moist places: in some of the streets by the water side in the city, for instance. The friend to whom I lately alluded lived at Newmarket; a most exposed and bleak spot. But if he left it, and attempted to sleep in a strange place, he never was certain that he should not be assailed in the night by his well-known enemy. So that there were towns in which, after experiencing the effects of their atmosphere, he dared not sleep; and there were others in which he knew he might go to bed in security. It would have been difficult, I believe, to point out any difference between some of those localities. His lungs, however, formed an infallible eudiometer. Another college acquaintance of mine, much tormented by asthma, is equally sensible to these inscrutable influences. Two inns in Cambridge are named respectively the Red Lion, and the Eagle. He can sleep in one of them, and not in the other. Nay he is thus variously affected within much narrower limits. He assures me that, when in Paris, he never escapes a fit of asthma if he attempts to sleep in the back part of Meurice's Hotel, and never suffers if he sleeps in a front room. Dover Street suits him; Clarges Street does not. He cannot rest in Manchester Square. This he

attributes to its being built upon piles. Whether it really has such a foundation I do not know. And agencies still more slight and subtle are enough to set the springs of these seizures in motion. The mere absence of light, for instance. Laennec speaks of a man who invariably was roused from his sleep by a paroxysm of asthma, if his lamp was extinguished; or if his chamber door was shut. The consciousness that the customary preventive remedy was not at hand has, apparently, brought on a fit.

There are many persons who never fail to become asthmatic if they inhale certain effluvia. Particles of ipecacuan floating in the atmosphere, or (what is perhaps the same thing) its mere odour, are insupportable to many. They are thrown into a paroxysm of dyspnoea if they enter a laboratory where that drug is under preparation. I think I mentioned before a certain laboratory man at St. Bartholomew's Hospital who possessed this peculiar and inopportune susceptibility: he was obliged to fly the place whenever ipecacuan was about. Most persons, probably, who have had much experience in druggist's shops, are acquainted with similar examples: so that the influence of ipecacuan in exciting fits of difficult breathing, resembling asthma, is undoubted, and common to *many* constitutions. We might as well speak of ipecacuan asthma, as of hay asthma, which is a precisely analogous affection. Dr. Marshall Hall calls attention to the familiar but interesting fact, that the same drug, ipecacuan, acting upon the *gastric* branches of the par vagum, excites the reflex spasmodic act of *vomiting*.

I have said, that the relief afforded by antispasmodic remedies affords presumptive evidence of the spasmodic nature of these attacks. If asthma supervenes upon manifest bronchitis, or if there be any signs of congestion about the head, it may be prudent to abstract blood: but this measure will not in general be requisite; and when not requisite, it should be avoided: for whatever tends to debilitate the patient, or to lower his vital powers, tends, at the same time, to augment his susceptibility to the exciting causes of the disease. The dyspnoea may frequently be moderated or altogether assuaged by some form of narcotic. Now opium is the narcotic to which we most trust for the mitigation of spasm in general: and opium *is* of vast service in paroxysms of asthma. But there is also another of the vegetable narcotic substances which has obtained an especial repute for its effect in quieting the difficult breathing in these cases; and that is *stramonium*. This herb, the *Datura stramonium*, and another species of the same genus, the *Datura ferox*, had long been employed in India as a remedy for asthma. And when it was introduced into

this country, about the beginning of the present century, it was cried up as a specific; and every body who called himself asthmatic began to smoke stramonium: for that is the way in which it has been chiefly employed. The leaves and stalks are cut and put into a pipe, and smoked like tobacco. The smoke descends, of course, into the lungs: and when the saliva is swallowed, the remedy is introduced into the system in that way also.

Stramonium thus used, sometimes fails altogether: sometimes calms the paroxysm like a charm. The late Dr. Babington told me of a patient of his who had been grievously harassed for a series of years, by asthma, but who declared to him, after he had made a fair trial of stramonium, that he no longer "cared a fig" for his asthma; which he could always stop in a moment. So a Mr. Sills, in a collection of communications relative to the *Datura stramonium*, published in London in 1811, states, that he had been a great sufferer from asthma: that the fits usually continued, with short interruptions, from thirty-six hours to three days and nights successively; during which time, he had often, in the seeming agonies of death, given himself over, and even wished for that termination of his miseries. But having at length discovered the virtues of stramonium, he uses this strong language:—"In truth, the asthma is destroyed. I never experienced any ill effects whatever from the use of the remedy; and I would rather be without life than without stramonium."

This, then, is an expedient which it will always be well to suggest, for relieving the urgent distress of the paroxysm of asthma. But most patients subject to that complaint, try it of their own accord. We have still to learn why it is so efficacious in some cases, and so entirely useless, or even hurtful, in others. This probably depends something on the presence or absence of organic disease in the lungs or heart: but more accurate observations are wanted on this point.

Some of the animals upon whose lungs Dr. Williams performed his experiments, had been killed by poison. In two instances stramonium was the poison employed; and it is interesting to know that scarcely any contraction of the air-tubes could be produced by the galvanic apparatus. The trachea, at the same time, was lax. It is requisite to notice the condition of the wind-pipe in these experiments; for the same want of contractility would be *apparent*, supposing the parts to be already in a state of tonic spasm, from the operation of the poison. This seems to have been the case when conium was used: the fluid in the glass tube indicated scarcely any compression of the air contained in the lungs; but then

the windpipe was so far contracted, that the extremities of its rings met. There was but little contractility, and a lax trachea after death by belladonna; and after death by the meconate of morphia. The contractility was slight when life had been destroyed by strychnia; but the condition of the trachea is not reported.

Experiments of this kind appear to be well worthy of careful repetition.

I have found a mixture of opium and sulphuric ether of great service in tranquilizing the breathing in asthma. And in one case, which was under my care for some time, I made comparative observations respecting opium and stramonium. Both gave much relief; but stramonium the most, and the most certainly, *if it were applied in time*. This patient was in the habit of being roused from sleep by the supervention of the paroxysm: and if he had the means of lighting his pipe *instantly*, he could stave the fit off. But when once it had attained its full intensity, he was *unable* to smoke. Under such circumstances, he would swallow the morphia and ether; and the effect of this depended also in a great measure upon the period at which it was taken. It would stop a commencing paroxysm; but had little influence over one that was fully formed.

It has been suggested, as one clue towards determining the particular kind of case to which the stramonium is applicable, that it succeeds if it produces *expectoration*; and not otherwise. But I doubt about this. The relief is sometimes too sudden to admit of its being so explained. Dr. Forbes quotes the following passage of a letter from an old and intelligent asthmatic to himself. "Smoking tobacco or stramonium is sure to give relief, if it produces expectoration; and it will generally do so if, the moment I awake (*i. e.* in the incipient paroxysm), I begin to smoke, and continue to do so for three or four hours. Smoking, I am able to say, after fifteen years' practice, and suffering as much as mortal can suffer and not die, is the best remedy for asthma *if it can be relieved by expectoration*. I have been in the hands of all the doctors of the place for 15 years; and still I say, *smoke*"

The lobelia inflata has of late been much lauded for its beneficial operation upon dyspnoea of all kinds, and upon asthma in particular. I believe its virtues have been overrated. It sometimes, like stramonium, has an almost magical effect; but frequently it fails to do the smallest good; and I know that sober practitioners who have employed it more than I have, have thought that it may occasion dangerous symptoms. Of my own knowledge, I have nothing worth communicating to you of this drug.

Strong coffee is a common domestic remedy for asthma. The friend and schoolfel-

low already mentioned used to take it in considerable quantities, and, as he assured me, with very great benefit. It is a safe, and simple, and grateful remedy, and has numerous testimonies from medical practitioners in its favour. But it is much less sure than the stronger narcotics.

Ipecacuanha, which is so frequently the *cause*, has also been recommended for the *cure* of asthma; and a host of drugs besides, with which I have no intention to weary you. Among the rest, the application of galvanism was once in great vogue. In the only patient who ever tried it under my own eye,—and he insisted upon being galvanized when his fits were quite absent,—the galvanism brought one on immediately.

If we can shorten or mitigate the paroxysms we do our patient a most essential service, and spare him a great deal of suffering. And during the intervals between the fits, we must endeavour to prevent their recurrence.

For this purpose, I can only just hint at the principle on which we should go. In the simple form of the complaint, when it is apparently uncomplicated with any organic disease, we must caution the patient against whatever has a tendency to disturb the general health. He must be temperate in all things; he must pay strict attention to the regulation of his digestive organs; he must discover what kind of situation suits him best; and avoid those which experience has shown to disagree with him. And if any one remedial measure be likely to fortify him against his malady, I believe that measure will oftenest be found in the employment of the shower bath, in the way which I formerly recommended.

If the asthma occurs in connexion with any obvious pulmonary or cardiac disease, we must, in addition to the means I have now been adverting to, apply ourselves to the mitigation of such superadded disease. And in respect to this I have nothing more to offer.

I go next to the morbid conditions of the œsophagus, so far as they concern the physician; and these morbid conditions are not many. The œsophagus lies partly in the chest, and partly in the belly, and therefore may very properly close the subject of thoracic diseases, and introduce those of the abdomen.

The œsophagus is less liable to disease than any other part perhaps of the alimentary canal. It differs in structure somewhat (as you know) from all other parts. It is clothed with a cuticular membrane called the epithelium, which extends a little beyond the cardiac orifice of the stomach. Beneath this is a mucous membrane, and then a dense layer of cellular tissue, and a thick web of

circular and longitudinal muscular fibres. In some cases there are pouches found in the sides of the Œsophagus, formed apparently by a kind of hernia of the mucous membrane, between the separated fibres of the muscular coat. These are not common, however, and scarcely worth mentioning, except that their existence has been supposed to have a possible connexion with a curious phænomenon, peculiar to some persons; the power, viz., of ruminating; the power of bringing into the mouth again, by a voluntary effort, food which has been for some time swallowed; as cows, and the rest of the *ruminantia* do. There are but few individuals of the human species who possess this faculty; there are but few who have appendices to their Œsophagus. Whether the phænomenon in question belongs to these last few has never been determined; but as the possible connexion of the two circumstances has been suggested, it is well for you to be aware of it, that you may refute or verify the notion in case you ever have the fortune to examine the dead body of a person who had the power of ruminating.

The covering of cuticle protects the Œsophagus from the injurious influence of matters passing over it, which might otherwise be hurtful. The morbid state for which we are most often consulted is stricture, *actual* or *spasmodic*. I believe that the Œsophagus is very little subject to inflammation, except from mechanical violence or chemical injury. I have seen a few cases, however, in which I inferred a spontaneous inflammatory condition of the tube, from the symptoms complained of; which were a sense of heat and pricking exactly in the course of the Œsophagus, and felt between the shoulders, and precisely in the part (the patients said), where a potatoe, swallowed too hot, gave pain while it was descending into the stomach. With these symptoms there was some degree of dysphagia, not explained by any thing visible in the throat or pharynx; and some degree of fever. In all the instances of this kind that I have met with, the symptoms have yielded in a few days to abstinence, purgatives, and the application of leeches along the track of the Œsophagus.

This part of the alimentary canal often suffers severe injury from the deglutition of certain poisons, especially the corrosive poisons; the strong mineral acids, for example; or the caustic alkalies. We have, in the museum of the College, some very interesting specimens of the effects of these destructive substances. Sometimes, when the quantity of the poison has been small, and its transit rapid, the cuticular lining alone of the gullet is destroyed. It is shrivelled up, broken into fragments, abraded. At other times, the subjacent textures are affected, and ulceration takes place, which at length heals, and

leaves a permanent, and generally progressive constriction of the Œsophagus: and sometimes the whole of the internal membranes slough away, and are discharged in one continuous tube, from the mouth; and yet the patient survives for some time. My colleague, Dr. Wilson, had a case of that kind. The patient, a young woman, swallowed about a table-spoonful of oil of vitriol. A week afterwards, she brought up, during a paroxysm of choking cough, a complete cast of the gullet, with ragged ends; or rather the gullet itself. Some of the muscular fibres of the Œsophagus were plainly visible on the outside of this tubular slough, in its recent state. She lived eleven months afterwards, swallowing all that time with difficulty and pain, and subsisting on slops and soft food. Yet at one period she certainly gained flesh. After her death, the channel, as it remained after the injury, was taken out and examined. They are both before you;—the original slough, and the ultimate gullet. The latter was formed by a surface which consisted of an irregular cicatrix. The tube was contracted considerably in the lower two-thirds of its course.

When patients have suffered inflammation and ulceration of the Œsophagus from these causes, and do not perish at the time, they are very liable indeed to have their existence abridged by the occurrence of stricture of the gullet, which goes on slowly increasing, until no food can pass it, and then, of course, the patient dies of starvation. I show you here an Œsophagus taken from a man whose case I had an opportunity of observing from the beginning. He was under the care of Dr. Macmichael, in the Middlesex Hospital. He was brought there on the 5th Nov. 1830, having swallowed, half an hour before, a solution of the impure carbonate of potass, which had been made for the purpose of cleaning paint, and which he had mistaken for beer. Not more than a table-spoonful passed the fauces, and probably none of the poison reached the stomach. He suffered severely, and was in considerable peril for several days, in consequence of inflammation of the fauces and epiglottis; but this gradually subsided, and he went out apparently well. From what I knew of the result of such cases, I ventured, however, to predict that this man would, sooner or later, come back with stricture of the Œsophagus. He had always pointed out a spot about half way down the sternum, where he said the oil of tartar had caused him extreme pain, at the very first, and below which he had not felt it.

Accordingly, I was not surprised to see the poor fellow at the hospital in February, 1834, attending as an out-patient. He came there, he told me, because in eating some soup, he had accidentally swallowed, without chewing it, a piece of carrot, which lodged in

its way down, and which it became necessary to push onwards into the stomach by means of a probang. Morsels of food had stuck in the same spot before; and it was the very spot where he felt the effects of the caustic at the time of the accident. He looked tolerably stout and healthy; but said that, since swallowing the potass, he had never been the man he was before. *

He continued to make his appearance, from time to time, at the hospital, with similar symptoms, till the 5th of last December (1836), when he was brought there insensible, and evidently dying. We could obtain no satisfactory account of his recent symptoms. He had the mark of a blister, however, on his left side; and upon closely examining him it was plain that that side was full of fluid. It was perfectly motionless in respiration; it was palpably larger than the right side; it yielded every where a dull sound on percussion; and no vesicular breathing whatever could be heard there by the ear. The respiration on the right side was puerile; and the beating of his heart, with a systolic bellows-sound, was audible on the right of the sternum.

Although I was certain that the left pleura was full of liquid of some kind, I did not have the thorax punctured: because, in the first place, he was manifestly *in articulo mortis*, and I thought that his death, which was certain, might be attributed to the operation; and secondly, because he was not dying of *suffocation*. His breathing was not laborious or much distressed; but he was dying of coma, and his extremities were already cold, and his pulse was fluttering. I conjectured that an ulcer of the œsophagus had made its way into the pleura, and caused inflammation there. But my conjecture was wrong.

I will mention the main particulars of the examination of the body after death, because the case was an interesting one in several respects.

There was a considerable quantity of serous fluid in the meshes of the pia mater, beneath the arachnoid; and there was some liquid of the same kind in the lateral ventricles. There was no other diseased condition detected in the brain. The effusion was sufficient, supposing it to have come on suddenly, to explain the coma.

I had the ribs sawed away on the right side, leaving their cartilages attached to the sternum; and then we saw plainly that the heart and mediastinum were thrust over, about four inches by measurement, beyond the mesial line on the right side. The body was on its back. It was easy to perceive how a pleura thus full of fluid must oppress the lung of the other side, especially when assisted by the force of gravity. The left cavity was distended by a greyish coloured and most offensive fluid, of the consistence

of gruel; the pleura pulmonalis was covered by a layer of coagulable lymph; and the lung was flattened against the vertebral column. We could not discover any communication between the cavity of the pleura and the œsophagus or air tubes.

About the middle part of the œsophagus there was a distinct stricture, occupying about half an inch of the tube. Through this portion it was impossible to push the little finger; which elsewhere found a loose and ready passage.

In this case, the man did not die of the stricture; but he would have done so, had not another disease carried him off. I do not know why the constriction, after it has once taken place, should go on continually increasing; yet it seems to be so. In his *Surgical Observations* Sir Charles Bell mentions three cases like that just described. In one of them, where soap lees had been the substance swallowed, death took place by starvation from stricture of the gullet, twenty years afterwards; and Sir C. Bell had no doubt that the stricture originated in the chemical injury inflicted by the soap lees.

When the symptoms of stricture come on in these cases, physic can do almost nothing. Surgeons pass bougies into the gullet, and attempt to dilate the strictured portion, or to prevent any farther narrowing. But this expedient is usually of temporary benefit only; and the patient dies at last of inanition. His miserable existence may perhaps be protracted a little, by injecting nutritive enemata into the rectum. Sometimes the œsophagus ulcerates through, and a communication is formed between it and the neighbouring parts.

But the œsophagus, like the urethra, and like the bronchial tubes,—like every canal, indeed, in the living body that is surrounded by circular muscular fibres,—is liable to temporary constriction and closure, by the spasmodic action of its own muscles; and this affection is, of course, a far less formidable one than the last.

Patients who are subject to spasmodic stricture of the œsophagus experience occasionally, in some point or other of that tube, a sensation as if there were a knot; or sometimes a feeling as if some solid substance was ascending from the stomach towards the pharynx. If they happen to be then engaged in eating, the morsels of food, after mastication, readily pass the pharynx: but, at a certain distance down the gullet, they stop, and occasion pain which is felt between the shoulders, or distinctly in the passage itself. Great anxiety and distress accompany this stoppage: and the food is often ejected by a reversed action of the œsophagus.

The symptoms, in fact, are identical with those which result from permanent stricture of the gullet, except that *they are not per-*

manent. When the stricture is organic and abiding, the symptoms occur during or after every meal. When it is simply spasmodic, they come and go, capriciously, we often cannot conjecture why or wherefore; after the fashion of other spasmodic ailments.

Spasmodic stricture may be independent of any disease of structure in any part of the body; but it is of some importance to be aware that it may also be symptomatic of very serious organic changes. Mr. Mayo relates the case of a young man "who had difficulty of swallowing. He could get down liquid food only; and that not without an effort. A bougie being introduced, some resistance was found at the upper opening of the Œsophagus, but it yielded: the resistance was spasmodic, and depended upon neighbouring irritation caused by ulceration in the interior of the larynx. The use of the bougie for a few days, with appropriate remedies to the larynx, removed the dysphagia."

The purely spasmodic cases occur principally in persons of a moveable constitution; in young women whose uterine functions are deranged, and who are liable to hysteria. The remedies for hysteria will prove remedies for the spasm of the Œsophagus also. And whatever is calculated to excite ordinary hysterical symptoms, whatever tends to render the system weak and irritable, will tend to aggravate the Œsophageal stricture. I alluded to such cases in a former lecture. I give you another, related by Sir Benjamin Brodie. A lady consulted him, unable to swallow the smallest morsel of solid food; and swallowing liquids not without great difficulty. The symptoms had been coming on upwards of three years. A full-sized Œsophagus bougie being introduced, entered the stomach without meeting the slightest impediment. This lady's face was pale and bleached: her feet were œdematous. She had long laboured under internal piles, from which repeated discharges of blood had taken place. Under the use of remedies which relieved the piles and the bleeding, the difficulty of swallowing went away.

It is singular, and if it occurred oftener might be a puzzling circumstance, that very nearly the same symptoms which occur when the Œsophagus is permanently or temporarily constricted, happen also sometimes under a totally opposite condition of that tube; I mean its dilatation into a large, inelastic, inert bag. One remarkable example of this I witnessed, in a woman whom I attended in conjunction with Mr. Mayo, some years ago, in the Middlesex Hospital. The case has been fully described by Mr. Mayo in the third volume of the *MEDICAL GAZETTE*; and more briefly in his *Outlines of Pathology*. She was 33 years old. She

was brought to the hospital in a state of extreme feebleness and emaciation. Those who brought her said that for the preceding month she appeared to keep down nothing. What she took as food seemed to her to stop in the gullet; and, after a few minutes, it returned. A large Œsophagus bougie passed readily into the stomach. She could swallow liquids more easily than solid food. When she took a small quantity, it did not feel to her as if it reached the stomach; and in three or four minutes was invariably rejected. The vomiting was not preceded by nausea; although in its progress it had the appearance of ordinary retching. She craved for food and drink, and seemed literally starving. The complaint had begun ten years before, during her pregnancy, and had gradually got worse. The belly was so shrunk that the umbilicus was not more than an inch distant from the spine. There was no enlargement nor hardness about the stomach; no particular tenderness on pressure of the epigastrium; nor any uneasiness there. She died, utterly extenuated, sixteen days after her admission.

The stomach was found small, and contracted at its middle to the breadth of an inch and a half. The upper part of the duodenum was but half the ordinary size of the ileum. The Œsophagus I shew you; turned inside out.

It is enlarged to an extraordinary degree of dilatation, as you perceive. It was healthy, and of its natural size, at and near each extremity. Intermediately the lining tunic was thickened and opaque, with numerous depressions in it. The muscular fibres, which appeared to have multiplied with the expansion of the canal, were of their natural colour and thickness.

Here is another preparation: a dilated Œsophagus with cancerous degeneration of the cardiac orifice of the stomach. I do not know its history; but the mechanism of such dilatation is intelligible enough. The food, unable to pass out of the gullet into the stomach—or passing slowly and uncertainly—the tube behind it is habitually distended, and loses at length its proper contractility. I saw last summer, in consultation with Mr. Mayo, an old gentleman, of 70, who, for two years, had experienced difficulty in getting food into his stomach. He would eat a few mouthfuls very well; and, then, of a sudden, the next mouthful, after passing the pharynx, would stop just short of the stomach; and a sensation of swelling would arise in the lower and middle part of the Œsophagus; and presently up the mouthful would come again. Sometimes, by waiting quietly a little while, the morsel would go on; sometimes he could wash it forwards by a gulp or two of drink: but if once the food got fairly into the sto-

mach he had no further trouble with it. This gentleman had no discoverable disease of the heart or lungs. He gradually grew worse. At last he began to vomit grumous matters, resembling coffee grounds, and soon died. He was at some little distance from London at the time, and the body was not (I believe) examined. I have no doubt that he had malignant disease of the cardia; and I think it probable that his œsophagus was dilated. I had a female patient about two years ago in the hospital with very similar symptoms; and her stomach was found to be full of cancerous disorganization. The state of her gullet is not recorded. We are apt, in such cases, to satisfy ourselves with ascertaining the gastric disease, without carefully examining that part of the alimentary canal which lies above.

For diseases like these medicine has no cure. Opiates may give comfort, and promote the euthanasia: and that is all.

SOME REMARKS

ON A

RARE FORM OF CARCINOMA.

BY THOMAS DORRINGTON, ESQ.

[Concluded from page 735.]

(For the *Medical Gazette*.)

I SHALL include the principal remarks that arise from the investigation, under the following heads, viz.: age, sex, employment, temperament, and state of health, mode of attack, situation of the cutaneous tumors, their colour as seen through the integuments, the existence or non-existence of pain in them, their alterations during the course of the disease, the coexistence and progress of other tumors, the general symptoms, the duration of the complaint after the appearance of the tumors, the immediate cause of death, so far as it was ascertainable, the morbid character of the tumors, their situation as discovered after death, and the coexisting morbid appearances either dependent on or independent of the complaint.

Age.—Of 11 cases where this is mentioned, the youngest patient was 17, the oldest 62. The mean age of the 11 was 41·818. From 17 to 30, there were 4 patients; from 30 to 40, only 1; from 40 to 50, there were 3; from 50 to 60, there were 2; and above 60, only 1. This is in accordance with what would be anticipated from a disease which seems to combine, in its nature, the hard and soft varieties of

carcinoma, the former of which is said to be most common late in life, and the latter in the earlier years. Between 17 and 30, and between 40 and 60, are the periods in which patients are most liable to be attacked; whilst, in the decennial period, between 30 and 40, they are least so.

In making these calculations from so few cases, we arrive, however, at approximations to the truth only, and these approximations are probably not very close.

Sex.—In 12 patients where this is recorded, 6 were male and 6 female; both sexes are, therefore, equally liable. Neither does the sex seem to have at all modified the age at which the disease occurred.

Employment, &c.—The condition of life and occupations of 12 patients varied. Of the males, 2 were gentlemen, 1 was a labourer, 1 a wooden shoemaker, 1 a mason, and the trade of the other is not named. Of the females, 4 were married, 1 was unmarried, but pregnant, and in 1 this is not alluded to. The occupations of the females are not mentioned.

State of health and temperament.—Out of 12 cases the previous state of health is not mentioned in 4; of the other 8, 7 are said to have been strong and enjoying good health; in 1 case only, the health is stated to have been on the wane for 3½ years. This is quite in accordance with what occurs in the more common forms of cancer, which, unlike tubercle, is a disease that is but seldom preceded by any signs of a cachectic constitution.

In three of the cases only is the temperament alluded to; in one of these it was bilious, in another sanguine, and in a third lymphatic.

The mode of attack.—Out of 11 cases, 5 were preceded by general pains of a wandering character; in one case these were supposed to be rheumatic; in 2 of these the pains are described as having been severe. In 5 cases, the appearance of the subcutaneous tumors was preceded by the occurrence of other tumors of a suspicious or malignant appearance; in 4 of the 5, these tumors were seated in glandular structures. In 2 cases, the cutaneous tumors appeared unaccompanied and not preceded by any marked symptoms. In 1 case, severe pain in the parietes of the cranium was the first symptom

noticed, and this was succeeded by the production of a tumor in this situation, which was only the first of a series that soon came on.

The affection, then, seems to be commonly preceded by general pains or glandular swellings of a suspicious character, though not universally so, since it has come on without any premonitory symptoms.

Situation of the cutaneous tumors.—Out of 13 cases, the swellings were present on the head, neck, trunk, and extremities in 2; on the neck, trunk, and extremities in 3; on the head and trunk in 1; on the neck and trunk in 1; on the neck and extremities in 2; on the trunk only in 4. The trunk, therefore, is their most usual, and the head and neck their least usual, seat.

The colour of the tumors as seen under the integuments.—Out of 12 cases, the tumors were colourless, the integuments being merely elevated above them in 9; bluish, purplish, violet, or brownish in 6; violet blackish in 1; and pink in the centre of a dull white in the circumference in 1.

Pain in the tumors.—I think wherever there is no mention made of pain in the tumors, in the different cases which I have consulted, we are justified in concluding that it did not exist, for this would most naturally be attended to if present. On this principle, we find that out of 12 cases there was no pain in 10; in 1 case, where they were situated on the scalp, they became painful only when they had reached a certain size, and this would probably depend on their situation; in the other, Mr. Abernethy describes them as “hard and painful, and made the patient feel as though he were lying on hob-nails.”

The absence of pain, then, may be considered an important characteristic of these depositions, as it is of other varieties of the cephalomatous form of cancer.

Changes in the character of the tumors during the progress of the disease.—In the majority of the cases none are recorded. In 2 the tumors seemed to break down into a sort of ecchymosis, which, from being purple, became yellow, and then disappeared; in 1 case, two of the tumors on the scalp became red and fungous. In another case, their mode of appearance is thus described: “At first, there were a number of small, round bodies, about the

size of large pins’ heads, imbedded in the skin of the belly and thighs; these were not made visible by any projection above the level of the surface; they were quite immoveable, and not painful to pressure. As the tubercles advanced, however, they rose above the general level, and assuming an oval shape, very commonly appeared surrounded with a large pale red areola.” In my case, some of the tumors bled externally; and though I do not find that any mention is made of a similar occurrence in Alibert’s cases, yet, in a few remarks on the disease which precedes them, he writes, “Les tumeurs, blessées ou irritées laissent souvent échapper un sang rouge et très fluide.” This fact has, doubtless, more or less connection with the tendency to ecchymosis in the neighbourhood and substance of the tumors noticed both in my own and Mr. Harrison’s case.

The coexistence and progress of other tumors (carcinomatous) ascertainable during life.—Out of 11 cases, in 7 there existed other carcinomatous tumors in different situations. These generally assumed the more ordinary forms of this disease. In 6 cases out of 7 they preceded the appearance of the general subcutaneous tumors. In 3 of the cases the swellings did not undergo any material changes; in 4 cases the disease progressed; in 1 a tumor of one of the cervical glands became a “phagedenic sore;” in another, the skin over the axillary glands peeled off in thin sloughs, but no positive sloughing of the tumor occurred; in a third, a tumor in the right arm, about $1\frac{1}{2}$ inches in diameter, became fluctuating, pointed, and became of a livid red colour, the patient dying when it was in this state; in the last, a tumor of the ovary became so large and irritating, as to cause the patient’s death from acute peritonitis.

There is nothing to lead one to suppose that the occurrence of the general carcinomatous deposits had any influence on the progress of the local tumors.

The general symptoms.—In this particular, the information to be derived from the cases examined is very meagre, partly because, in all probability, there were none of a very striking nature, and partly because the attention of those who have recorded them seems to have been directed more particularly

to their most curious feature, the subcutaneous swellings. A sallow state of the skin, loss of appetite, debility, emaciation, and towards the last, considerable exhaustion seem to have existed in most. In 3, vomiting was present so constantly, as to be specially noticed; and in 2, violent epistaxis occurred. Wandering and in some cases severe pains, seem to have been present in 6 or 7 cases out of 11.

The immediate cause of death.—Out of 10 cases, this depended on inanition, owing to a suspension of the function of nutrition from the progress of the disease in 6; on exhaustion from epistaxis in 1; on exhaustion from parturition in 1; in exhaustion from the effects of a phagedenic cancerous sore in 1; and on the effects of acute peritonitis in another.

Duration of the disease after the appearance of the subcutaneous tumors.—In 8 cases, where this is mentioned, the period reckoned in weeks was re-

spectively 8 weeks (in two cases), 9, 10, 18, 22, 40, and 66. The mean duration of the 8 cases was 22·625 weeks; but I am inclined to believe that a greater number of facts under this head would show that the average duration of these cases, when fully developed, is less than this.

Morbid characters of the tumors on post-mortem examination.

It is much to be regretted, that the majority of the cases which I have examined are so concisely related, that a careful pathological account of these bodies is not given. The following table, composed from 9 cases, presents all that is recorded on this point, and will explain itself, the reader bearing in mind that in some of the cases, nearly every variety of appearance was observed in the tumors. The prevalence of the varieties is expressed in numbers:—

Form.		Situation.	Consistence	Colour.																															
6	Solitary.	9	In the Cellular Tissue.	7	Hard.	8	Brain-like.	6	Cream-like.	2	Quite Fluid.	4	White.	5	Yellowish.	5	Pink.	2	Chocolate.	3	Brown.	2	Bistre.	3	Livid or Purplish.	3	Blackish.	2	Grey.	3	Bluish.	3	Ecchymoses in the neighbourhood of the Tumors.	3	Bloody spots in the substance of Tumors.
	Aggregated.		In the substance of Organs.		Brain-like.		Cream-like.		White.		Yellowish.		Pink.		Chocolate.		Brown.		Bistre.		Livid or Purplish.		Blackish.		Grey.		Bluish.								

The foregoing table shows the constancy of certain characters, which may be assumed as marking the existence of the complaint. Of these we may enumerate the globose form, the seat in the cellular tissue and in the substance of organs, and the hard, brain-like, and cream-like consistency of the tumors. Amongst other very constant features of these deposits, though not so much so as those just named, we may notice their being both solitary and aggregated; and yellow, pink, and white in colour. In one-third of the cases there were both ecchymoses in the neighbourhood of the tumors, and also in their substance. This last feature, I am inclined to suspect, was present in more cases than those in which it is noticed.

These morbid characteristics are quite sufficient, I think, to identify this disease with that form of carcinoma

which Dr. Carswell terms cephaloma, meaning thereby any of the softer forms of cancer; and although the above table shows that there were hard deposits in 7 cases out of 9, yet the proportion in which these coexisted with those that were soft, is not more, perhaps, than 1 to 5 or 6. It would appear, also, that in the progress of the disease the firmness of the tumors disappeared, and gave place to a softer character. The great variety in colour exhibited in the table would seem to depend principally on the greater or less admixture of effused blood that existed in the substance of the softer tumors, and on the period of time that had elapsed since this effusion had taken place.

Situation of the tumors in the visceral cavities in 10 cases.

Head.—This appears to have been

opened in one or two cases only, and therefore we can form no idea of the relative frequency of their presence here. In Mrs. Massey's case, which I have previously related in full, they were present in both the cerebrum and cerebellum.

Chest.—They were present in the substance of the lungs in 7 cases, in mediastina in 3, under the pleuritic covering of the lungs in 2, under the pericardial covering of the heart in 2, in its substance in 1, under its serous lining in 1, and on the great vessels proceeding from it in 1.

Abdomen.—They were present on the intestines or mesentery in 5, and in 2 cases under the mucous membrane; in the liver in 4, in the omenta in 4, in the substance of the pancreas in 3, on the pancreas in 1, in the stomach in 2, in the spleen in 2, in the great abdominal vessels in 2, in the kidneys in 1, in the ovaries in 1, on the mucous membrane of the bladder in 1.

In the majority of the above-named situations, their immediate seat was in the cellular tissue, under the peritoneum. It is curious that they are not noticed as having occurred in the uterus. In the case that I have recorded, by an unaccountable oversight, this organ was not cut into.

In 10 cases, the lymphatic glands were affected in three only, which is not analogous to the general course of events in the more ordinary forms of this disease.

Co-existent morbid appearances probably intimately connected with the complaint.—Out of ten cases, there were present great friability of the bones in one; carcinomatous tumor of the extremities in two; carcinomatous tumor of the sacrum in one; thickening (carcinomatous) of the parietes of the bladder in one; genuine melanotic deposits in two.

Co-existent morbid appearances not clearly traceable to the complaint.—Out of ten cases, there were present serous effusion, deeply tinged with blood, into the pericardium in one, into the pleuritic cavities in two, and into the peritoneum in one; sero-purulent effusion into the peritoneum in one; greasy degeneration of the liver in two, of the pancreas in one; serous cysts in the ovaries in two; tubercles in the lungs in two; interlobular emphysema of the lungs in one; gangrene of the intestines

in one; "engorgement of the pancreas" in one; "engorgement of the mesenteric glands" in one; caries of the lumbar vertebræ and psoas abscess in one; and pregnancy in one.

To recapitulate. Disseminated globose carcinoma is a disease which seems to combine in itself the soft and hard varieties of cancer, the former, however, preponderating. The cancerous depositions, which characterise it, are of a globose form, solitary, or aggregated, or both, as the case may be, and universally disseminated throughout the body, being found to pervade both the cellular tissue and the substance of organs, but the former more particularly. The colour, consistence, and size of the tumors, are subject to much variation even in the same case; the latter circumstance being dependent a good deal upon the locality of the deposits, the former upon the state of the circulation through them, and on their age. It is sometimes combined with the more ordinary forms of carcinoma, and its existence does not seem to preclude the occurrence of other diseases, nor even of pregnancy. Its attack cannot be anticipated from any premonitory symptoms; and, indeed, there are none that can strictly be considered in that light, if we except the occasional occurrence of wandering pains in different parts of the body. It generally comes on in individuals whose health is apparently good; and no age, after the period of puberty seems exempt from it, though it is less common from thirty to forty than at other periods of life. Neither sex, temperament, nor occupation, exert any influence over its occurrence. Its existence is first known to the observer, by the presence of a number of small subcutaneous tumors, either colourless or bluish, generally free from pain, situated, in the greatest numbers, on the trunk of the body, but present at times on the head, neck, and extremities also. These tumors, at first firm, in some cases become softer, can be broken down into the surrounding cellular tissue by squeezing them between the fingers, and sometimes disappear, leaving in their place subcutaneous ecchymosis. However little the patient suffers from the affection at first, and sometimes this is the case in a remarkable degree, the issue of the complaint is uniformly fatal. In a longer or shorter time the health begins to de-

cline; the patient loses his appetite and strength, becomes sallow, and emaciates rapidly, without any other symptoms of consequence in the majority of cases. The average duration of the disease, after it is fully developed, is about three months; at the end of which the sufferer sinks, worn to a shadow, and completely exhausted.

The only disease with which disseminated globose carcinoma is liable to be confounded is mollusum, a very rare disease, first described by Dr. Bateman, of which a very good case, with a drawing, by Mr. Fowler, of Cheltenham, may be found in the 7th volume of the Transactions of the Provincial Medical Association.

I believe that there are no very decided marks that will lead to a correct diagnosis between the two diseases in their early stages, except that in mollusum *some* of the tumors are *attached by a neck or pedicle, and pendulous*, whilst in disseminated globose carcinoma *all* the tumors are *sessile*. In the latter stages there can be no difficulty on this score, since in mollusum the general health of the patient never becomes deteriorated, and the tumors continue in *statu quo* till the end of life, "having apparently no natural termination;" but in disseminated globose cancer fresh tumors keep appearing to the last; and often these alter their character after they are fairly developed, whilst in no long period the complaint undermines the constitution, and proves fatal.

There is a very general notion, that a strong connection subsists between cancer and melanosis; an idea which is probably based on the fact of their frequently co-existing. In two of the cases that I have examined it will be remembered that this co-existence is mentioned. Whether it be philosophical to view deposits, apparently so different as melanosis and carcinoma, as one and the same disease, we will not now pause to inquire; but it is impossible to read the foregoing details and not be struck with the strong analogy that subsists between the form of cancer, which we are examining, and melanosis, in many important particulars. From this analogy, however, I would exclude the absolute nature of the deposit itself in its anatomical and chemical characters; an exclusion, nevertheless, which, in the case that I have

transcribed from Cruveilhier's work, it would be difficult to justify.

Without entering into a laboured comparison between the two diseases, it will be sufficient here to state, that the remarks which are made by Dr. Carswell, in his article on Melanosis in the Cyclopædia of Practical Medicine, under the following heads, will apply equally to disseminated globose cancer, viz. locality, form, encysted or non-encysted character, universality, size, consistence, changes that occur in the tumors, symptoms, diagnosis, prognosis, and treatment. An attentive examination of this analogy will amply repay those who are so far interested in the subject as to undertake it.

Perhaps there is no form of disease that can more favour the growing feeling toward the best parts of the humoral pathology than the affection under consideration, since the rapid simultaneous production of cancerous deposits, in every part of the system, can be explained by no theory that does not admit of influences at least co-extensive with the circulation of the vital fluid. The peculiar physical and chemical changes that occur in the blood in different diseases are now, for the first time, receiving a special and scientific examination at the hands of M. Andral, and other fellow-labourers; and it is in this direction we must look for explanations as to the nature and origin of the primary deviations from health that result in the deposition of unnatural products, as tubercle, cancer, melanosis, &c.

It is from the same sources, too, that hints will be gained on the treatment of these affections, which at present is so hopeless. With respect to disseminated globose cancer, I am not aware that any thing can be done in the way of treatment except to palliate urgent symptoms when they exist. Extirpation of the subcutaneous tumors, where very few have existed, has been tried; but, as might be expected, they were either soon reproduced, or many fresh ones made their appearance. The knife, at best but a questionable remedy in any form of cancer, in this peculiar variety can be of no avail, since the disease is by no means confined to its visible products.

15, Oxford Street, Manchester,
Dec. 18, 1841.

ON THE RESULTS
OF THE
OPERATION FOR STRABISMUS.

BY D. HENRY WALNE, ESQ.

(For the Medical Gazette.)

CONSIDERABLY more than twelve months have elapsed since, through the medium of the MEDICAL GAZETTE*, I communicated to the profession some observations on the operation for the cure of strabismus, the principal object of which was to recommend a mild form of the operation, in preference to one characterised by unnecessary violence; and to show its applicability to the most prevalent varieties of the personal defect it is intended to remedy.

Having carefully considered all the circumstances which appeared likely to interfere with success before I performed the operation at all, I was not disappointed of the result desired when I came to put it in practice: and in the whole period which has since passed, during which I have operated in a great number of cases†, not a single instance of failure has resulted.

Time alone could determine the complete efficacy of the operation in permanently restoring the natural appearance and motion of the eyes operated on; and it may be a question whether sufficient time has yet elapsed to test this efficacy. But if enough has not been afforded for the due appreciation of the lasting or transient character of the benefits derivable from the operation, neither, certainly, has anything occurred in my experience of its effects to justify a condemnation of the practice of dividing the tendon of one of the recti muscles, in cases of strabismus. So far from it, I am thoroughly convinced that no operation in surgery has, when properly performed, more uniformly the desired immediate effect: and numerous examples within my observation, in which I performed the operation from twelve to fifteen months ago, have recently‡ been subjected to examination, without any abatement

of my confidence in the permanency of their cure.

This is precisely the kind of experience for which an appeal has lately been made in various quarters; an appeal to which I respond with the ready confidence which success inspires.

Whilst, however, this is my individual experience, founded on the operations performed by myself, which, from the very first, have been conducted with a minutely careful attention to what I considered, and found to be, the essential points of the operation, still I am convinced that the distrust of its efficacy, which has arisen in some minds, and may be said to be a growing distrust, must have a foundation in experience of an opposite kind. Enough of failures have been brought under my own notice to explain their nature, and to show me how readily they may occur from want of such attention. Warnings and experience seem to have been thrown away upon some confident operators; whilst the limited opportunities of many, and the thoughtless manner in which these have proceeded in what they assumed to be an easy undertaking, have led to numerous disappointments. It is too much, however, to infer, from results so induced, that the operation itself does not admit of being rendered an almost certain means of removing a highly displeasing personal defect, and of preserving its subject from a recurrence of so distressing a peculiarity; I say distressing a peculiarity, for the expressions of grateful and delighted feeling which I have witnessed on its removal, with the descriptions repeatedly given me of the oppressive influence which, though silently borne for years, had been felt up to that moment of emancipation, amply convince me that to many it is no light matter to carry about them such a mark, nor a trifling gain to have it effectually effaced.

The essential points of the operation to which I have above alluded, and of which several of those who have written on the subject are, as well as myself, sufficiently aware, are these: *to spare the conjunctiva; and to divide the tendon and all unnatural adhesions completely; the former as near as possible to the globe of the eye.*

It is, I believe, the want of attention to these essentials, and, when these

* MED. GAZ. Sept. 18, 1840.

† I speak of internal squint in saying this, for in one or two cases of external squint, arising from injured internal muscle, I led the patient to expect but little benefit, and, I believe, not much was obtained. It is not possible to restore the action of a paralysed opposing muscle, by dividing one which overacts its part.

‡ In October and November last.

have not been attended to, the attempt by *other means* to remedy the effect of imperfect operations, which have occasioned failures and led to distrust of the general efficacy and safety of the operation. The circumstance of several operators, otherwise eminent for their dexterity and skill, particularly among the most rapid and dextrous operators of France, having failed in their first operations for strabismus, from inattention to such minute points, has also served very much to bring it into undeserved discredit.

At a very early period in the history of the operation, it was observed that occasionally the squint returned, or was again apparent almost immediately after the operation, long, indeed, before the muscle could have reunited, if it and its attachments, of an unnatural description, had been effectually divided; and doubts arose as to the permanency of cures from cases which scarcely exhibited the character of temporary improvement. Forthwith it was concluded, though, as far as I have observed, without sufficient reason, that some other muscle than the internal or external rectus was frequently implicated in ordinary cases; and this erroneous impression being hastily acted upon, the edges of other muscles were partially divided, the conjunctiva was sweepingly separated from the eyeball, all opportunity for the muscle to re-attach itself, directly or indirectly, completely destroyed, and atrophy of the muscle probably ensuing, a prominent eye, devoid of its natural internal or external movements, was the common result. Such cases have been repeatedly brought to me. They are, as a journalist very justly observes, little better or less remarkable than the original squint; but they are not, as he supposes, the consequence of a well-performed operation.

In these cases, the power to turn the eye inwards*, beyond what can be done in that direction by other muscles, independently of the rectus internus, is lost. Probably it is permanently lost. Perhaps, even, an opposite squint may ultimately be established as the consequence of such loss. Hitherto, however, no example

has been shown me of this extreme effect ensuing. But those observers of the effects of the operation, who conclude, as some seem to have done, that the loss of the power of the muscle divided is a necessary result of the operation, exhibit so little acquaintance with the subject, that it is not worth while to waste words in refuting their opinion. All that can be properly done for them is to invite their attention to a different, and, when due caution is observed, an almost invariable result of the well-performed operation, which is, *the complete restoration of natural muscular action on the side of the eye which has been the subject of its performance*. Anything much short of this is not satisfactory.

From the above observations, it is easy to perceive that the failures which have been noticed, are of two kinds, and are indeed of precisely opposite character. In the one species the excessive muscular power, which is the essence of the ailment, remains in force. In the other the natural muscular power is not regained, whilst prominence of the eye is substituted for the squint, and its movement is left defective.

The former of these kinds of failure, I believe, depends on an imperfect division of the tendon or muscle, or of some unusual attachment of either. The minutest fibre of tendon left undivided, seems capable of so favouring the re-union of the divided portions of the muscle, as to defeat the purpose of the operator. In some examples of failure of this kind, which I have been called on to correct, I have, however, found ample evidence that a great part of the muscle had been left by the previous operator quite untouched; and in several cases of my own early operations, had I been satisfied with less than a most careful examination of the eye, some fibres would have escaped and endangered their success.

The latter kind of failure I consider quite irremediable. Several cases of it have been brought to me, but I have not attempted any operative proceeding. Fortunately, these even are less unsightly than a strong squint. Their nature is as evident as possible. The muscle has been severed from its attachment to the ball of the eye, and at the same time the textures, through the medium of which it might regain this connection, as it does in the successful

* It is most convenient to speak generally of inward, that being so much the most common variety; but most of the observations, though not all, would also apply to outward squint.

operation, having been too freely dealt with, have not, within a sufficiently early period from the operation, regained their own position and firmness, so as to support and promote the re-attachment of the muscle, by adhesion. After little more than a week it is too late. The muscle seems, in such cases, to recede beyond the reach of nature's process of restoration by continuous adhesive deposit, the boundary of which is very limited. Examples, more aggravated still, of this species of failure, occur in those instances in which the operator has chosen to divide portions of the superior or inferior rectus, in accomplishing or even attempting which, he could not well avoid a much too free division of the conjunctiva. Greater prominence of the eye is very apt to ensue from such a proceeding; and it is one which, if I were to judge from my own experience, is never necessary.

It will naturally be inquired, by what mode of procedure is success to be insured? Any mode of operating which secures the two objects already announced as essential, will succeed, viz., to spare the conjunctiva, and to divide accurately the tendon of the muscle, with all its preternatural attachments. I operate very much as when I first wrote on the subject, with, however, some slight simplification of the proceeding. Using no instrument whatever to fix either eye or eyelid, none being required: the other eye being covered, the lids of that which is to undergo the operation are kept apart by an assistant, and the patient is desired to look steadily in a direction opposite to that in which he squints. A small fold of conjunctiva is now gently raised by forceps, blunt-pointed scissors, cutting well to their points, divide the conjunctiva and subjacent cellular membrane to a very small extent, down to the sclerotic, just below the lower edge of the rectus muscle. The eye rests and is wiped. Then, the lids being again raised, a blunt hook is passed beneath the muscle, rather backward, its point being kept close to the ball of the eye till it has risen beyond the upper edge of the muscle, when the hook is pressed towards the cornea, and drawn a little to the operator, so as to narrow the part to be divided, and thereby lessen the

extent to which the conjunctiva will be severed. The hook which I use is one which I had made somewhat on the principle of Mr. Adams's, but with less depth of curve, and with a handle like that of a cornea knife; the broader flat, corresponding to the point of the hook, serves to convey information to the operator of its situation, and affords great firmness of hold. At this stage of the operation he holds the muscle on the hook, and by so doing fixes and commands the eye most effectually; and the moment that he feels all to be ready, completes the operation by dividing the tendon between the hook and the ball of the eye, as near to the latter as practicable. When the tendon is divided, which is accomplished by a pair of strong straight scissors, cutting the fibres directly across, the operation is generally completed, and the eye has only to be examined to ascertain that point.

Two or three modes, sufficiently known, may be used, to prove satisfactorily that the eye can no longer be carried inwards materially beyond the centre of the orbit, and it is observed to stop suddenly when the attempt is made. Should this not be the case, examination, by gently searching for any fibre that may have been missed, usually discovers the cause of the imperfection in the operation to be some adhesion or fibre of tendon which has escaped division. Either must be divided, and the examination carefully repeated, which, as it consists only in directing the patient to look at some particular object, or in raising the upper eyelid a few times, and is attended by no pain, need not be done with hasty inattention on the score of humanity, or for the sake of *éclat*; *the cautious completion of the operation being one of the chief sources of success.*

A question has been frequently put to me by medical men who have witnessed my operations, or conversed with me on the subject, whether I have often found it necessary to divide other muscles than the internal or external recti? To this question I can still reply, as heretofore, that I never have had occasion to touch any other muscle. A few cases of complicated squint have been presented for operation, in which the cause of complication has been palpably other than muscular. For ex-

ample, the following instance may be thought interesting, being one of very rare occurrence:—

In a case of inward and upward complication, pterygium existed, which I believe to have been congenital. A fan-shaped, firm, membranous structure, proceeding from about midway between the centre and circumference of the cornea, where it was attached to full one-fifth of the circle, spread upwards to the junction of the conjunctiva of the globe and upper eyelid. Conjunctival folds of this form seemed to include fibrous bands. A probe could be passed beneath each edge, but could not be carried completely under, from one to the other edge, the conjunctiva opposing its progress.

I divided the pterygium in the first instance, by raising it with forceps and snipping it with scissors; and in doing so, having opened the conjunctiva, passed a blunt hook from above downwards, instead of the contrary usual direction; and the muscle being readily divided, the operation was completed in nearly as little time as in the simpler form of case. The result was quite satisfactory.

In other examples of the same form of squint, viz., upward and inward, the division of the single muscle seemed to be all that was necessary, no distinct cause for the complication being detected in the course of the operation. The obliquity of the direction ceased with the division of the inner rectus muscle; but, as the conjunctiva covering it was divided by the same stroke of the scissors, any peculiarity of either might escape observation.

In another case, the result of an accident, which had greatly injured the eyelids as well as the eye and its other appendages, adhesion of the upper lid to the ball of the eye served to complicate the squint, which was external. I performed an operation for the removal of this unnatural attachment before I operated for the squint. The former operation materially improved the appearance of the eye, and the latter was partially beneficial; but, as I had predicted, was not completely successful, owing to want of power in the inner rectus to move the eye well, when the outer was divided. Probably the inner muscle or its nerves had sustained such an injury from the accident, as to destroy its

power permanently. The operation was performed, as I may say, under protest, and without my expecting or promising any good from it.

I could here recite the particulars of numerous cases of successful operation for internal squint*; but when I state that every instance in which I have operated, has, I believe, been one of success; that an example has not yet come to my knowledge of time impairing the advantage derived from the operation; and that several of my earliest cases have recently been subjected to minute examination, with a view to ascertain their results as accurately as possible, after the lapse of considerably more than twelve months; I think it superfluous to lengthen this communication by such details.

Guilford Street, Russell Square,
Jan. 1st, 1842.

CASES IN MIDWIFERY,

(From January 1831, to January 1841.)

BY JAMES BORRETT, M.D.

Late Physician to the Dispensary, and Accoucheur
to the Lying-in Charity in Norwich.

(For the *London Medical Gazette*.)

THE medical practitioner, who has a wide field of observation, possesses opportunities, for the neglect of which he is responsible to the profession. If possessed of common industry and observation, he becomes, by long experience, a useful and successful practitioner; if gifted with strong reasoning and reflecting powers, he is eminently qualified to promote the advancement of the medical art. In any case he has an opportunity of collecting materials for the use of the many less favourably placed. In ministering to the subordinate office of collecting and supplying matter available to others, he is rendering good service to the profession. But, unfortunately, in medicine there are as many "false facts" as false theories; and these must be cleared away, as well as the accurate and complete results of experimental

* Sometimes the patients absent themselves almost immediately after the operation, foolishly trifling with their own cure. I have no doubt that examples of want of success may be traceable to this neglect, as there are some measures of after-management essential to success in a few particular cases. Covering the sound eye is not one of them, and may deceive the operator himself as to the condition of his case.

inquiry recorded. Comprehensive and correct data are required in order to arrive at safe practical deductions. We have seen this demonstrated in the somewhat hasty application of the numerical method to scientific medicine. The principle in itself seems to be sound; and promises, if carried out with due caution, and properly applied, to invest practical conclusions with the authority of general laws. But the attempt to generalise from meagre and crude materials is too common an error; and sound deductions can only be entrusted with safety to the philosophical mind.

I am well aware that the medical practitioner is too apt to regard with partiality the pages of his case-book, which acquires in his own view an undue importance. Still I venture to offer the following cases as a small contribution to obstetric medicine, in the hope they will be found of use as faithful records of what they purport to relate, and so far safe aids to practice; while, at the same time, they offer to the accoucheur matter of practical interest.

Their result, on the whole, afforded me grounds of satisfaction. Three cases only proved fatal: one of inversion of the uterus, to which I was called in consultation when the patient was moribund; another of arm-presentation, in which I had the assistance of an experienced accoucheur; and a third, of placental presentation between the fifth and sixth month in a poor and half-starved subject, whose loss had been profuse.

1*. Purdy, æt. 23; first labour.—Duration of the labour two hours, from the time the os uteri, soft and thin, was dilated half an inch, to the expulsion of the placenta. The child a female.

2. Plummer, æt. 20; first labour.—Difficulty in the birth of the head, owing to a narrow and insufficiently dilatable orificium vaginae.

3. Bygrave, æt. 31: third labour.—Consultation. Face presented. Pro-lapse of the cord during an attempt

to rectify the position by the hand. Craniotomy.

4. Spalding; fifth labour.—Face presented with chin towards sacrum. Consultation. Delivery by forceps.

5. King, æt. 30; first labour.—Face presented. The infant (female) was still-born eight hours after the dilatation of the os uteri.

6. Armes, æt. 26; fifth labour.—The child entered the pelvis with anterior fontanelle to the symphysis pubis, the sixth position of Baudelocque. Consultation. After a labour of fifteen hours' duration the infant (female) was born; its weight seven pounds avoirdupois; the head greatly disfigured; the forehead projecting considerably beyond a right line with the face.

7. Claxton, æt. 45; fifteenth labour.—The head and the forearm presented. The arm could not be carried above the head until the rapidity and force of the pains had subsided, at the end of twelve hours. The child (male), four hours afterwards, was still-born. Its weight ten pounds and three quarters; length twenty-three inches: umbilicus at the centre. Left parietal bone depressed; right arm much swelled. The occipito-frontal diameter of the head five inches and a half; the bi-parietal diameter, four inches and a quarter; circumference of the head, fifteen inches; circumference of the chest, thirteen inches and a half; width of the shoulders, seven inches.

8. Ayres; tenth labour.—Hydrocephalic head. Punctured after sixteen hours' strong labour. Circumference of the *dried* preparation of the cranium, eighteen inches and a half; measurement from the root of the nose to the occipital foramen, fourteen inches.

9. Taylor, æt. 35; fifth labour.—Breech presented. Child still-born. Difficult delivery of the head, from ossification of the sutures.

10. Burton, æt. 24; second labour.—Feet presented. The head wedged by the extractive efforts of a maladroit midwife.

11. Parish, æt. 22; fourth labour.—The forearm and hand lay in the vagina, the feet resting at the os uteri. The liq. amnii had escaped. Difficulty in turning. The child still-born. In the sixth labour, the hand presented; and, in the eighth, the hand and foot.

12. Cook, æt. 32; sixth labour.—The forearm and hand presented in the

* For report of instrumental labours, terminated by the vectis and forceps, see "Observations on the Use of the Vectis, or single-blade Extractor in difficult Labours," in the *MEDICAL GAZETTE* of the 16th and 23d of July last; and for report of labours complicated with hæmorrhage, see paper "On Uterine Hæmorrhage after the Birth of the Child," in the *MEDICAL GAZETTE* of the 24th of the present month.

vagina, the feet lying just above the os uteri. Liq. amnii discharged. Turning. Child still-born.

13. Furnace; sixth labour.—Hand and forearm lay without the os externum, the shoulder wedged in the inlet. The liq. amnii escaped. Turning. Child still-born.

14. Ditto; eighth labour.—Hand and forearm presented. Liq. amnii escaped. Turning. Consultation. Difficulty in delivering the head (which was not opened). Died four hours afterwards. A post-mortem examination was refused.

15. Turner (July 24, 1833), æt. 24; first labour.—Craniotomy at the end of seventy-two hours.

16. Ditto (March 18, 1835), æt. 26; second labour.—Gave birth to a living infant. Its weight, seven days after delivery, was five and a half pounds; length, seventeen inches; umbilicus at the centre. Bi-parietal diameter measured three and a half inches; occipito-frontal diameter, four and three-quarter inches. Bones of head very compressible. The sutures slightly ossified.

17. Ditto (August 25, 1838), æt. 28; third labour.—Consultation. Craniotomy performed after twenty-four hours of regular but ineffective pains. Extravasation into the palpebræ.

18. Ditto (April 7, 1840), æt. 30; fourth labour.—Child born at the end of twenty-two hours; its weight, six pounds. Bi-parietal diameter, three and three-eighth inches; fronto-occipital diameter, four and five-eighth inches; fontanelles large. Interspace along the sagittal suture to the extent of one-eighth of an inch.

19. E. F., æt. 19; 1st labour.—The patient was of short stature, with remarkably small hands and feet. Consultation. Craniotomy. Small and deformed pelvis. Its conjugate diameter at the brim $2\frac{1}{4}$, ascertained by digital admeasurement; transverse diameter at outlet, 3 inches. Weight of infant, $4\frac{1}{2}$ lbs.

20. Day, æt. 20: 1st labour.—Convulsions. Delivery by the forceps four hours after the first fit; child (male) still-born; its weight 9 lbs. *Treatment*: V.S. ad xxx ; purgatives.

21. Lynes, æt. 20; 1st labour.—Convulsions. Delivery by the forceps four hours after the first fit; child (female) still-born. *Treatment*: V.S. ad xxvj ; second V.S. ad xx ; hair close cut;

cold applied: calomel, ol. tigllii crotonis, sinapisms, and blister to the nucha. Before her marriage was subject to hysterical fits; since the birth of her first child they have become of an epileptic character.

22. Wright,* æt. 39; 1st labour (had miscarried at sixth month).—Convulsions. Labour terminated by the vectis eight hours after the seizure. Fits returned at intervals of twenty minutes to half an hour, and continued twenty-six hours. *Treatment*: V.S. ad xxx ; emetic tartar; calomel; ol. tigllii crotonis; hair cropped close; cold applications; sinapism to epigastrium. On the third day maniacal excitement came on, which was relieved by doses of morphia citras.

23. Mountain, æt. 24; 1st labour, Feb. 29, 1836.—Convulsions. Delivery by vectis $2\frac{1}{2}$ hours after the second fit, at $2\frac{1}{2}$ A.M. Half an hour afterwards a third fit followed, and four more before 10 A.M. From this time they recurred every half hour; had altogether 21 fits. *Treatment*: V.S. ad xxx ; second V.S. ad xxx . (This was not made till 3 P.M., in consequence of the neglect of my orders.) Hair cropped, cold applied, calomel, turpentine enema; and blister to the nucha.

24. Ditto, æt. 26; 2nd labour, Feb. 21, 1838.—Convulsive attack at 10 A.M. She was left by the husband with a child two years old, and her state was not discovered until 3 P.M., when a neighbour found her in a fit. I did not get to her till 6 P.M. She had then lain for eight hours without assistance. The child was expelled at 2 A.M. (22nd), as I entered the chamber. Did not answer a question or speak, except in a muttering tone, until the 26th. Two years after this second attack of puerperal convulsions, her mother informed me that her appearance and manner remained dull, and at times she seemed to lose, for an hour or two, all consciousness of surrounding objects. *Treatment*: V.S. ad xli ; cold applied to the head through the night; calomel; ol. tigllii crotonis; emetic tartar; sinapisms to the thighs and epigastrium; turpentine enema; blister

* I attended in Wright's case, May 9, 1835, and was induced to give the emetic tartar after V.S., from the good effect I had observed to follow its employment in a case of maniacal excitement occurring during labour. I was not at that time acquainted with Dr. Collins' authority for its exhibition in puerperal convulsions.

to the nucha; mist. vini. antim., tinct. hyos., liq. ammon. acet., et mist. camph.

25. Townsend, æt. 37; 10th labour.—Convulsions during pregnancy. Had not borne a child for seven years. No return of the fits after the treatment I pursued. Was delivered of a child (dead) about a fortnight afterwards. Had not felt the child since the attack. *Treatment*: V.S. ad. 3xvj.; calomel, pulv. jalapæ, followed by sulph. et carb. magnesiæ. She complained of epigastric pains for some time. This was removed by pulv. rhei., sodæ carb., et pulv. calumbæ.

26. Gribbin, æt. —; 2nd labour.—Convulsive twitches of arms twenty-four hours after delivery, with great pain of head, and full, strong pulse, occurring in a plethoric habit. The child (dead some days) presented the side of the chest, and was expelled nates foremost. *Treatment*: V.S. ad. 5xxxvj.; at least 3vj. of blood flowed after the ligature was removed from the arm; purgatives.

27. Warren, æt. —; — labour.—Accidental hæmorrhage. Twins. Profuse flooding after the birth of the first infant; delivery of the second by turning; removal of coagula, and afterwards of the placenta.

28. Taylor, æt. —; 15th labour.—Accidental hæmorrhage. Rupture of the membranes. Prolapse of the cord, the head resting at the inlet; no labour pains coming on, the delivery was effected by the vectis.

29. Duffield, æt. 45; 15th labour.—Unavoidable hæmorrhage between the 5th and 6th month. Os uteri contracted and rigid. I plugged the vagina. Consultation. Craniotomy. Died two hours after I reached her chamber.

30. Hudson, æt. 33; 12th labour.—Unavoidable hæmorrhage; turning; child still-born.

31. Spalls, æt. 33; 10th labour.—Unavoidable hæmorrhage; turning; child still-born.

32. Atkinson, æt. 18; 1st labour.—Unavoidable hæmorrhage; ergot; child still-born.

33. Purland, æt. 36; 10th labour.—Unavoidable hæmorrhage; turning; child still-born.

34. Comar*, æt. 37; 8th labour.—

Placenta retained. Failure of friction, compression, cold, and ergot, to effect the separation and expulsion of the placenta. Its removal by the hand accomplished twenty-four hours after the birth of the child with difficulty, in consequence of an extraordinary contraction of the os and cervix uteri. The placenta adherent toward the fundus uteri posteriorly over its entire uterine superficies.

35. Kerry, æt. 37; 5th labour.—Inversion of the womb. Consultation. While the surgeon was engaged in removing the placenta, in consequence of profuse flooding, the uterus was inverted. It lay protruding through the os externum, with the placenta partially attached. No hæmorrhage recurred after the separation of the placenta and its return to the uterus; the parts, however, had lost all vital resiliency, and she died shortly after. She had suffered from dangerous flooding in former labours.

36. Mason, æt. 25; 1st labour. Laceration of the perineum and sphincters of the anus. the vagina and rectum forming a common outlet. A consultation with the surgeon, who was called after the dismissal of the practitioner who attended at her labour. The patient was a healthy young woman from the country. By the natural contraction of parts, and the restorative process set up, the sphincters regained a degree of relative power, the vagina presenting posteriorly at about an inch and a quarter from the pudendo-anal fissure a thin, abrupt, oblique edge.

9, Queen Anne Street, Dec. 24, 1841.

the placenta was left to the midwife. Four hours afterwards she requested my attendance. The placenta had not come away. Friction, compression, and cold having failed to bring about uterine contraction, four doses of tincture (equal to four scruples) of ergot were given at intervals of a quarter of an hour, without the least perceptible effect upon the pains. The removal of the placenta was then attempted by the hand, but in vain, from the extreme contraction of the os uteri, which I was inclined to attribute to the ergot, although I could not be certain, as the midwife alone had examined previously to its exhibition. Sixty drops of laudanum ordered. At a consultation two hours afterwards, it was decided to administer gr. i. of opium every hour to four doses.—Venesection was opposed. Further consultation at 9 P.M. A second fruitless attempt was made to remove the placenta. Dec. 9th, 9 A.M. The removal of the placenta by the hand effected after *very great* difficulty, caused by the extraordinary resistance at the os and cervix uteri. The placenta was adherent over *its entire uterine superficies* at the fundus uteri posteriorly. The patient bled to twenty ounces, and an ounce of castor-oil given. She recovered without an unfavourable symptom.

* The midwife was called to Comar at 8 P.M., Dec. 7, 1832. I delivered the child with the forceps, on account of an almost total want of pains, at 9 A.M. next morning. No discharge at the time of its birth. I was summoned in great haste to another labour, and the management of

A CASE TERMINATING FATALLY

FROM THE EXTRACTION OF A TOOTH;
WITH THE TREATMENT.

BY W. A. ROBERTS,

Dentist and Surgeon, Edinburgh.

(For the London Medical Gazette.)

MR. C. PEN, of middle age, rather full in body, called upon me on Sunday, the 19th Dec. 1841, requesting to have a tooth removed that had given some uneasiness for a length of time. Upon examination, I found the dens sapientiæ of the right side of the lower jaw loose, the crown quite gone, and removed it without difficulty with a pair of forceps generally used for extracting the temporary teeth of children; it had three small fangs, the anterior one being the longest; the hæmorrhage nothing more than usual, and had ceased ere he left; the alveolus being plugged with lint, wetted with the camphorated spirit of wine. At half-past four of the same day, Mr. P. called again, the blood flowing in a continued stream, evidently from the anterior alveolus: cleaned it out from the bottom, and filled it up firmly with a strip of lint, pressed down with a curved instrument; when full, applied a compress of cork fitted to the part, and pressed upon firmly by the dens sapientiæ of the upper jaw, being likewise securely bandaged. Ordered astringent lotions, &c. The hæmorrhage was again checked, the saliva coming away unstained. At this visit the patient informed me that he had had a tooth taken out a few years ago, which was followed by considerable bleeding for nearly three days, but was arrested by the application of caustic; as also, that lately his gums had bled to a great extent, and for a fortnight at a time. Of all this I was unfortunately ignorant until after three hours had elapsed from the removal of the stump. There was nothing indicating any hæmorrhagic tendency at the time I saw him first; and being a stranger to me I was consequently not acquainted with the history of his habit of body. I was sent for early on the Monday morning, and found the hæmorrhage had continued without intermission through the night; he had deferred sending for me unfortunately, as I had requested, sup-

posing the bleeding would stop of itself. I found no coagulum about the mouth, or in what had been spat out, as in ordinary cases of hæmorrhage, the alveolus being as clear as when the root was first taken out. I put a piece of lunar caustic, the size of a pin's head, into the bleeding alveolus, pressed it down and plugged with sponge lint, and bandaged as formerly. The bleeding was once more stopped. Lotions of kino and alum were used with benefit. For more than an hour after this, all appeared safe. In the course of the day, Dr. Hay, of Queen Street, the family medical attendant, called, and found the case as bad as ever. Dr. H. applied the actual cautery without benefit; attributing this circumstance to the instrument used, the first thing at hand being too thick at the point, I followed up Dr. Hay's suggestion a few hours afterwards, and used an iron better adapted to reach the bleeding vessel, but with no good result; during the operation, the patient started, by which the iron slightly burnt his under lip (and here I may mention, the blood continued to ooze freely from this wound for several days). Our success was various until Wednesday, the 22d; and on that day, if anything, the hæmorrhage was worse, and more alarming symptoms present: great sinking, weak pulse, giddiness, &c.; had serious thoughts it would be necessary to take up the carotid artery. Towards evening an improvement took place; the bleeding being once more under command by pressure; mild purgatives given, in consequence of a considerable quantity of blood having been swallowed. On Thursday, at 2 A.M. was sent for, as the patient had sunk to an alarming degree; Dr. Hay and myself attended immediately; found him recovering from a fainting fit; port wine was given; he rallied. Upon examination, found there was no active hæmorrhage from the original source, nor was there any afterwards. On this day, Mr. Nasmyth, of George Street, saw the case, which was going on favourably, with the exception of a smart oozing from the gums and left nostril, which commenced after the bleeding from the alveolus had ceased. Upon the removal of the bandages, the face was much swollen and discoloured, from the effusion of blood into the cellular tissue, giving all the appearance of the

result of a blow. From the 23d till the 27th, still improving; pulse good; countenance less anxious; getting a quiet sleep occasionally; the sloughs drying up under the use of turpentine, &c., with no increase of hæmorrhage; mild aperients ordered, a little wine (port and claret), and the use of tonics. For several days still gaining ground: the oozing from the gums being occasionally troublesome, a solution of the nitrate of silver was painted over them with advantage. On Monday, the 27th, Dr. Hay and Mr. Nasmyth considered it unnecessary to continue our meetings as we had done, but to see him occasionally, Dr. H. taking the charge of the case. From the 27th until the 30th, much the same; no active hæmorrhage. I had not seen the case for two days, when Dr. Hay informed me that a change for the worse had taken place, all the old symptoms being aggravated by a severe pain all over the mouth and head. Mr. Nasmyth and myself saw the patient on Sunday, the 2d of January, 1842: general depression, with slight hæmorrhage from the gums, nostril, and the alveolus; pulse irregular. Claret given every two hours. The gums were washed with strong astringents. From the 2d to the 9th no improvement. Dr. Abercromby, York Place, was consulted. From the 9th gradually sinking. Wine given freely. The gums were touched with the proto-nitrate of mercury by Mr. Nasmyth, which only checked the hæmorrhage for a short time; they were very turgid, of a purple colour, and almost covered the teeth; the features collapsed, cheek still discoloured, and all the symptoms of the disease, purpura hæmorrhagica, more decided. Although all was done that such eminent men would be expected to do, death put an end to this painfully interesting case on the following Tuesday, being three weeks and two days in duration.

In the course of my practice I have met with several cases of severe hæmorrhage following the extracting of a tooth, but always succeeded, by pressure, in checking it. One case in particular, the hæmorrhage was alarming, and had continued for two days. Upon examining the mouth, I discovered a portion of the alveolar process that had been splintered; upon taking this away, and removing the

clot of blood, which nearly filled the mouth, and, in fact, was acting as a poultice, and also washing out the bleeding alveolus with warm water, I cut a small piece of sponge lint to the size of the cavity, and pressed firmly down with lint; over that a compress of cork, and securely bandaged, the hæmorrhage was effectually arrested. The heat of the mouth softens the wax, the sponge expands, and being confined, must of necessity press upon the mouth of the bleeding vessel. I have occasionally tried replacing the tooth with lint wrapped round the fangs, but never could depend upon it, but should think it would answer well with any of the single-rooted teeth, or the bicuspidates; I never had occasion to try it in any of these teeth. In passing I may remark, that in all the cases that have come under my notice I never saw the application of the actual cautery of much service; still, in extreme cases we are bound to employ it.

11, Duke Street, Feb. 4, 1842.

PATHOLOGY OF THE KIDNEY.

To the Editor of the Medical Gazette.

SIR,

WILL you permit me, as a very humble microscopical investigator, to express the satisfaction I experienced from Dr. Bright's letter, in your last week's number, on the Pathology of the Kidney; and at the same time to offer my testimony to the correctness of his own and Mr. G. Robinson's observations on the alteration of the corpora Malpighiana.

In the latter part of last year I directed the attention of Dr. Addison, and Mr. J. H. Browne, among other friends, to a minutely injected preparation, which I possess, of diseased kidney, wherein was noticed a total absence of the Malpighian bodies. The arterial injection appeared to be extravasated into the cellular tissue of the cortical substance of the organ, but was neither returned by the veins nor ureter; whilst that thrown in by the ureter fully dilated both the tubuli and veins. These facts led me to suggest the probability of these bodies being the primary seat of disease, and that the free communication between the tubuli and veins might be sufficient to

account for the presence of albumen in the urine, and of urea in the blood.

As this, however, is the only opportunity that I have ever had of carefully examining this interesting disease, I only ventured an opinion, that if these appearances presented themselves in all future cases, they offered a very just *rationale* of cause and consequence.

I remain, sir,

Your obedient servant,

HENRY REYNOLDS.

42, Moorgate Street, Feb. 2, 1842.

ANALYSES AND NOTICES OF BOOKS.

“L'Auteur se tue à allonger ce que le lecteur se tue à abréger.”—D'ALEMBERT.

Catalogue of the Preparations illustrative of Normal, Abnormal, and Morbid Structure, Human and Comparative; constituting the Anatomical Museum of George Langstaff, Member of the Royal College of Surgeons, &c. &c. London: Churchill. 1842. 8vo. pp. 518.

A REVIEW or an analysis of a “Catalogue” will not be expected by our readers. But it may, and doubtless will, interest many of them to know, that they can now consult, not merely the list of upwards of two thousand preparations, contained in the well-known museum of Mr. Langstaff, but that this catalogue gives in connection with most of the specimens a brief, yet instructive, account of the symptoms and treatment during life, and the appearances detected after death.

Mr. Langstaff “long entertained the hope that his collection might be preserved entire, through the liberality of some of the many important medical institutions of this enlightened country; but that hope has long since been dissipated.” Such hopes were very natural, and we can feel, and sincerely too, for the mortification Mr. L. must suffer from the thought of his splendid collection being separated: but we are not prepared to attribute to want of liberality, the circumstance of his museum not having been purchased entire by either of our public medical institutions. Most, if not all of them, it must be remembered, are already in possession of museums of greater or lesser extent. The addition of so very large and mis-

cellaneous a collection as that of Mr. Langstaff's must necessarily have led to a very considerable expense, and to the purchase of many preparations which they could not require, because they already possessed similar specimens. We, in common with all who have visited Mr. Langstaff's museum, have felt how much credit he merits for the labour he has bestowed, and the talent he has displayed, in collecting so splendid a museum; and heartily do we hope, and we have no doubt that our wish will be realized, that Mr. L. will have no cause to regret, in a pecuniary point of view at least, the determination he has formed of disposing of it by public auction.

MEDICAL GAZETTE.

Friday, February 11, 1842.

“Licet omnibus, licet etiam mihi, dignitatem Artis Medicæ tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso.”

CICERO.

HARD WORDS IN MEDICINE.

A CORRESPONDENT, who signs himself “A Plain Man,” and whose letter is dated from Glasgow, desires to call our attention to the flood of hard words and foreign terms which too often disfigure the writings of medical authors; neither the fugitive columns of periodical publications, nor the pages of substantive works, being exempt from this blot. The subject is an interesting one, and demands consideration.

When we endeavour to analyse the motives which prompt authors to variegate their native tongue with words taken from foreign languages, several different ones present themselves. The first is, the hope of supplying the deficiency of one language from the stores of another. Thus, Cicero enriched his native idiom with innumerable terms taken from the Greek; Virgil introduced the words *lychni*, *spelæa*, *Thyas*, *trieterica*, &c.; and there is probably no Latin writer of note in after ages, who did

not follow their example. One of the best points about Roman writers is the candour with which they acknowledge the immeasurable superiority of the Greeks in literature and the arts. While attributing to the Romans the empire of the world, Virgil allows the Greeks the praise due to their unrivalled sculptors and orators,

Exudent alii spirantia mollius æra,
Credo equidem: vivos ducent de marmore vultus;
Orabunt causas melius*.

and Horace considers genius and eloquence as their special inheritance:

Graius ingenium, Graius dedit ore rotundo
Musa loqui, præter laudem nullius avaris†.

from such deep reverence to diligent imitation, the steps are not many.

In most of the sciences, the modern languages of Europe are content to copy the Romans in this respect, and draw their terms from the dialect of Athens. The Germans, indeed, boast that the flexibility of their language enables them to cope with the Greek itself, and imitate the most elegant compounds of the most perfect of languages. Hence, in addition to the Greek word, they use, more or less, some word of native growth, put together in imitation of the foreign original. Thus Astronomy may be expressed by *Sternlehre* (star-doctrine); Geography by *Erdbeschreibung* (description of the earth); and Peritonitis by *Nauchfell-Entzündung* (inflammation of the abdominal membrane.)

The theory of those who wish to expel all foreign words from the German language is called *Purismus*; and some have carried it so far as to create Teutonic substitutes for words generally received throughout Europe; *e.g.* *Tagbett* or *Ruhebett* (day-bed, or repose-bed) instead of sofa.

On the whole, the scientific terms of home origin are less used than the corresponding ones taken from the

Greek; partly from the influence of habit, and partly, perhaps, because the native compound shews its framework too clearly; and thus bears the same relation to the corresponding Greek term that the *anatomie vivante* might do to an Apollo.

Yet these *Uebersetzungen*, or Germanizings of foreign terms, are by no means neglected, and instances will occur to every one skilled in the construction of a sentence, where *Sternlehre* or *Sternkunde* will sound far better than *astronomie*. The efforts of the purists have, in fact, been rewarded by considerable success, and German writings are now far less speckled with foreign words than in the last century.

Thus the moderns are obliged, in many cases, to borrow the terms of art and science from the ancients; and when the borrowing has been well managed, or, in other words, when the transaction has been conducted by a scholar, we have but little reason to regret that the words were not home-manufactured, but imported.

In very many instances, the arts and sciences are necessarily indebted for their vocabulary to more recent cultivators than the Greeks and Romans. Thus, astronomy owes many of its terms to the Arabians; music speaks the language of Italy: it is difficult to discuss the details of war or cookery without the use of French phrases; and some English expressions, relating to steamboats and railroads, have spread over the world, together with the inventions on which they depend.

Yet, even adoptions of this kind are liable to reproach when they transcend moderate bounds; the custom-house of criticism allows each passenger to bring in what necessity demands, but sternly sets its face against wholesale importations. Addison humorously complains of the strange words with which the war was then adulterating our native tongue, and maintains that our soldiers

* *Æneid*, lib. vi. 847,

† *De Arte Poet.* 323.

ought to be provided with secretaries, and assisted by our foreign ministers to tell their stories for them in plain English.

"For my part," he says, "by that time a siege is carried on two or three days, I am altogether lost and bewildered in it, and meet with so many inexplicable difficulties, that I scarce know which side has the better of it, till I am informed by the Tower guns that the place is surrendered. The histories of all our former wars are transmitted to us in our vernacular idiom, to use the phrase of a great modern critic. I do not find in any of our chronicles, that Edward III. ever reconnoitred the enemy, though he often discovered the posture of the French, and as often vanquished them in battle. The Black Prince passed many a river without the help of pontoons, and filled a ditch with faggots, as successfully as the generals of our times do it with fascines. Our commanders lose half their praise, and our people half their joy, by means of those hard words and dark expressions in which our newspapers do so much abound. I have seen many a prudent citizen, after having read every article, inquire of his next neighbour what news the mail had brought*."

Addison goes on to tell of a gentleman of a good estate and plain sense, who received a letter from his son, a captain in the army, which neither himself nor the curate could understand. The latter asserts the epistle to be neither fish, flesh, nor good red herring; while the father producing another letter written three posts before says, "You see here, when he writes for money, he knows how to write intelligibly enough; there is no man in England can express himself clearer, when he wants a new furniture for his horse."

Whence is the language of anatomy and medicine derived? In part from the ancients, and in part from those, who, at the revival of literature, extended the domain of these branches of knowledge. As Latin was then the

language equally of science and letters, the additions to the knowledge bequeathed by the ancients were naturally, and almost necessarily, expressed in the dialect of Rome, which then, as fifteen hundred years before, was fain to borrow from the more copious language of Athens.

Thus Celsus knew that the colon was *latê fusum atque sinuatum*, and that it was *ab utrâque parte huc atque illuc volutum**; but it is probable that the term "sigmoid flexure" was first used by some modern anatomist. He had to express a relation which we believe the ancients had left, if not unobserved, at least unnoted; and he did so skilfully. Instead of manufacturing one of those grotesque words, of which our correspondent rightly complains, he selected a good Greek one (*σιγμοειδης*), and stamped a lasting phrase.

The misfortune is, that the present coiners of new medical words are generally unfit for their task; so that, even if the want is acknowledged, they are unable to supply it. Can any one hope to give currency to such a word as one of those cited by our correspondent, *myopodiorthoticon*, which it seems is the name of an instrument to cure shortsightedness?

We do not know whether we can go the whole length with the writer of the letter, when he says, "There is nothing almost in all that we medical men have to say which cannot be expressed in the copious stores of our own language,"—unless he includes all that the judiciously learned have added up to the present time.

Swift, indeed, says, that while a farmer will tell you in two words that he has broken his leg, a surgeon, after an hour's explanation, will leave you to seek. This, however, is more biting than accurate. If the object is merely to announce that a leg is broken, the farmer's two words are enough; but if

* Spectator, No. 165.

* De Medicinâ, lib. iv. cap. 1.

details are required, we must apply to the surgeon and not to the husbandman; and these details will sometimes demand words which will seem hard to the farmer. So that it is not always possible to observe the precept of the "Guardian," and talk with the vulgar while we think with the wise. But this is no excuse for the words most justly censured by our correspondent. In a late excellent work on the Ear, three species of deafness, he says, are distinguished, as Kophosis, Paracousia, and Dysecœa. He understood the two first at once, but was obliged to turn over his lexicon for the third. The first and third mean deafness, but Paracousia (it should be *Paracusia*) signifies false hearing: is it intended as a synonym to *Tinnitus aurium*?

Translation, though hardly a reason for the introduction of foreign words, is certainly a road by which they are smuggled in. "The great pest of speech," says Dr. Johnson, "is frequency of translation. No book was ever turned from one language into another, without imparting something of its native idiom; this is the most mischievous and comprehensive innovation*.

To this source of evil we are indebted for other words complained of in the Glasgow letter, such as *chronicity*, *consensual*, and *retro-peritoneal*.

Dr. Johnson, in the passage referred to above, speaks of the "license of translators, whose idleness and ignorance, if it be suffered to proceed, will reduce us to babble a dialect of France." Let us hope that the Saxon elements of our tongue may prove too strong for a whole horde of translators.

A third reason for the insertion of a foreign phrase, is the wish of the writer to show that he is not too thoroughly in earnest, but indulges in a graceful levity. If a man in the mid-

dle of a plain English letter informs his friend that he has not a farthing in the world, or says, *Je n'ai pas le sou*, in either case he appears to declare the same fact; but the impression made is very different, from the difference of the tone in which the fact is conveyed. In one of Goethe's novels, a woman says, that she knew her lover was about to desert her, when he began to write his notes in French. An ingenious commentator supposes this to be founded on the less sincere tone of the French language, which allows a writer to use *demi-mots*, or say things in a half manner, without entirely committing himself; but we rather suppose the justice of the lady's inference to rest on the fact, that when a man is in earnest, he employs his mother tongue.

Part of the Greek, no doubt, with which Cicero's letters are besprinkled, springs from the wish to give ease to his style. Thus, when he gives an account of the stay of Julius Cæsar at his house, he says, *σπουδαιον ουδεν, φιλολογα multa* (there was no talk of business, but much of philology). The mere dry fact that politics were not their theme might have been declared by *nihil serii* as well as *σπουδαιον ουδεν*, but probably Cicero wished to speak familiarly of the familiar. When he afterwards says of the great conqueror, *ἑμετικὴν agebat* (he took an emetic), this may proceed from the same motive, or rather, perhaps, from a wish to throw a veil, however slight, over an unpleasant idea.

This intention of lessening the repulsiveness of a subject, by the medium of a foreign language, is not confined to modern writers, in some of whom it might be ascribed to an overstrained decorum. We find it in Celsus, who, when he proceeds to treat of the diseases of the genital organs, announces his intention of using their Greek names:—

* Preface to the Dictionary.

“Proxima sunt ea quæ ad partes obscœnas pertinent: quarum apud Græcos vocabula et tolerabilius se habent, et accepta jam usu sunt; cum in omni ferè medicorum volumine atque sermone jactentur: apud nos fœdiora verba, ne consuetudine quidem aliquâ verecundius loquentium commendata sunt: ut difficilis hæc explanatio sit, simul et pudorem, et artis præcepta servantibus.” — *De Medicinâ*, lib. 6. xviii. l.

Lastly, many words owe their attempted introduction (for naturalized they can never be) to error in all its varieties; to the hurry of the author who composes, while the printer's boy is waiting in the passage; or to his Greek studies—confined to the pages of Hederic or Schrevelius. Thus, taking of food, says the letter, is expressed by “the ingestion of aliment;” and a meritorious writer on club-foot lengthens the shortening of the tendons by calling it *contractation*.”

But, some beginner may ask, if writers of the highest merit from Cicero to Dr. Young have naturalized Greek words, why not I?

ego cur acquirere pauca
Si possum invidior, cum lingua Catonis et Ennii
Sermonem patrium ditaverit, et nova rerum
Nomina protulerit?*

If Chaucer erst and Shakespeare as they sung,
Enriched with fire-new words their native tongue,
Why should my mite be scorned?

Why, indeed, if the mite is a good one, of genuine metal, with the true stamp upon it!

But do not wantonly substitute stiff Roman words for plain Saxon ones; and do not set the cold results of dictionary hunting on a level with the words which have burst from first-rate writers in their moments of inspiration.

MEDICAL REFORM.

A BILL on the subject of Medical Reform, comprising various important changes, has been prepared, and is to be brought into Parliament by Sir James Graham.

A FIFTH CASE OF ENLARGEMENT OF THE THYMUS GLAND,

OCCURRING IN A CHILD TWO YEARS AND EIGHT MONTHS OLD, AND TERMINATING FATALLY.

By WM. ROBERTS, M.D., of New York.

NOVEMBER 15, 1840, Joseph Manuel (white) came home well on Thursday from school, eat heartily of fried sausage and potatoes, and was put to bed. Two hours afterwards awoke and vomited, and had fever and frequent stools. This increased in the morning, and he was drowsy and unwilling to rise. At 5 P.M. of Friday had a “burning fever,” and was “as red as scarlet;” he had slept all day, snoring loudly. At 6 P.M. I saw him. He breathed quick, and the skin had a red hue, as if from scarlatina; his face was much flushed, and he was drowsy and peevish. He vomited in my presence some greenish fluid, having before done so frequently. Percussion elicited a clear sound on both sides of the chest, and the respiratory murmur was audible, mixed with a slight sonorous râle. The action of the heart was not remarkable for its force. About midnight he had a sudden chill, which lasted nearly an hour, and the redness faded away. On the morning of Saturday, he lay almost comatose, but was able to offer much resistance to any attempts to examine him. He began to change about two hours before his death, which occurred at noon (a period of 40 hours), being slightly convulsed just before death.

Post-mortem examination.—The lungs perfectly healthy throughout. The trachea and larger bronchi slightly reddened. The left auricle of the heart hypertrophied, and the whole organ large. The thymus gland very thick and fleshy, completely covered two-thirds of it, extending down on either side; the apex of its left lobe, which was much larger than the right, extending to within half an inch of its point. It was three inches and a half wide, and at its greatest length four inches, and had apparently no cornua, commencing just at the bifurcation of the trachea. The liver was large, but, with the other abdominal viscera, healthy. The mucous coat of the stomach was pale and soft.

The symptoms in this case seemed due to disease of the brain, which I could not obtain leave to examine. I am aware that, without this, it is imperfect. I have only recorded it for the purpose of attracting attention to the condition of the thymus gland, a state as yet but little noticed, yet of frequent occurrence. The child was forward for his age, stout, and had always enjoyed good health. The history of this case differs

* Hor. Ar. Poet. 55—8.

from that of any I have previously recorded. If the brain were not affected, the enlargement of the thymus, except the slight bronchitis, was the sole lesion. If it were, what share had it in causing or accelerating the rapidly fatal results?—*American Journal*.

CASE OF POISONING BY CORROSIVE SUBLIMATE SUCCESSFULLY TREATED.

BY BRYANT BURWELL, M.D.

MRS. G. was confined at 2 A.M., of Friday, Feb. 2d. Found her pretty comfortable on Saturday morning, and prescribed a small dose of castor oil. At a quarter before ten P.M., was requested by Mr. G. to visit his wife as quick as possible, as she was taken suddenly ill. Found the patient on the edge of the bed endeavouring to vomit; she exclaimed, "Oh dear, doctor, I am poisoned, I have taken corrosive sublimate!" She was very much distressed; complained of great heat and burning in the throat and stomach. Inquired how she knew it was corrosive sublimate. She replied she knew it, for she had taken it before, and by the taste and the sensation of fulness and swelling. She said she took it in the castor oil. Inquired for the vessel she had taken the oil from, and was referred to a tea-cup. I found a little oil adhering to it; and rubbing my finger on the cup, felt a gritty substance, and tasting it, recognized corrosive sublimate.

Dr. B. immediately ordered some eggs, and administered the whites of about half a dozen. She had vomited, and continued to make great efforts to evacuate the stomach. Sent to his office for a dose of ipecac. In the meantime, dissolved tart. ant., and pot. gr. iii. in water, and gave one-third at a time until copious vomiting took place. She threw up bloody mucus mixed with the contents of the stomach. Twenty minutes past ten, gave pulv. ipecac. 3ss., and ten minutes after the first dose gave 3ss. more. She continued to drink freely of white of eggs diluted with tepid water and mucilage gum arabic.

Dr. Burwell and Mr. George E. Hays, tested the crystals they found on the cup, spoon, and phial, with lime water, nitrate of silver, aq. ammonia, carbonate of potash, and the galvanic process, and found the precipitate as given by corrosive sublimate. Mrs. G.'s convalescence was unattended with any unpleasant symptoms. Mrs. G. took the poison about a quarter of an hour before Dr. B. arrived.

February 18, 1838, Mr. George E. Hays and myself examined the crystals we found in the phial of oil; there was not to exceed

half a grain. We made use of the following reagents. Hydro-sulphuret of ammonia, hydriodate of potash, protochloride of tin, lime water, carbonate of potash, prussiate of potash, and galvanism. M. H. placed a particle of the suspected crystal on a piece of glass, while I, at the same time, placed a piece of corrosive sublimate on another glass, then applied the reagents, and carefully noticed the result; in all cases the effect was similar, and coincided exactly with the descriptions given in your work on medical jurisprudence.—*American Journal*.

CASE OF PARALYSIS OF THE PORTIO DURA.

A CASE of paralysis of the portio dura lately occurred at the King's County Almhouse, which presented a curious physiological fact I have not seen noticed in any other case which I have met with.

J. Ward, a marine, aged 33, came to the poorhouse with secondary syphilis, for which the ordinary treatment, consisting of an alterative course, with sarsaparilla, was successfully used. But upon the subsidence of the syphilitic symptoms, he was suddenly seized with a paralysis of some of the muscles of the face. His mouth was drawn to the left side, the natural power of winking his right eye was lost, and he could not elevate the right angle of his mouth. As the senses of smelling, sight, hearing, the motions of the eyeball, the motions and taste of the tongue, and the motion of the lower jaw, were perfect on both sides, the paralysis was evidently confined to the portio dura of the right side.

But the most curious part of the case, and that for which I have been induced to relate it, is, that he could close the eyelids at will, while the involuntary winking was confined to the left eye, showing that the voluntary power of closing the eyelids is communicated by means of a different nerve from that which causes the natural winking, the latter depending upon the portio dura, while the former is probably derived from the ophthalmic nerve. This is confirmed by a case in the *Revue Medicale* of April, 1829, published by Duges of Montpellier, in which both the trifacial nerve and the eighth pair of the right side were paralyzed, and all power of closing the eyelids was lost. These two observations show that the voluntary motion of the eyelids is derived from the ophthalmic branch of the fifth pair, and the involuntary from the portio dura, and where both were paralyzed both motions were lost.—*Dr. Zabriskie in American Journal*.

ACCOUNT OF A
GENERAL ERUPTION OF VACCINIA,
OBSERVED AT THE HOSPITAL COCHIN.

By M. F. AUBRY.

THE instances are very rare in which an eruption of the pustules of vaccinia takes place at a distance from the spot where the lymph was inserted. The case related by M. Aubry is that of a female infant who was vaccinated when a week old, three punctures being made in each arm. Vaccination was performed on July 3, 1841; on the 10th, virus was taken from her arm in order to inoculate other children. Several small papulæ were observed on her body on the 10th of July; and on the 15th, eleven pustules, closely resembling those of the cow-pox, were seen on her abdomen and lower limbs. These pustules were of a flattened form, of a yellowish white colour, perfectly circular, with a slight depression in the centre, and surrounded by a bright red areola. The character of the eruption changed rapidly, and some of the pustules presented a brown scab; but this was not the case with all. The question of the nature of these pustules, however, was soon set at rest by vaccinating a child from them, when pustules were produced which underwent precisely those changes which are characteristic of chicken-pox.

M. Cazenave denies that the pustules which occur on the body of patients who have been vaccinated are real vaccine pustules, except in those cases in which they have been produced by the person inoculating himself by scratching the skin of some part, with his fingers accidentally moistened with vaccine lymph from the parts where the puncture was made. But it cannot be supposed that in this case all the eleven pustules were thus produced; and we must therefore admit the possibility of a secondary eruption of vaccinia consequent on the absorption of the virus into the blood from the place where it was inserted. Nevertheless, it is probable that in the greater number of instances in which this has been supposed to occur, the eruptions observed were either varicella, or some varioloid eruption modified by vaccinia.—*Archives Générales de Médecine*, and *Brit. and For. Med. Rev.*

ON DIVISION OF THE MUSCLES
OF THE FACE,
WHEN AFFECTED WITH CHRONIC SPASMS.
By DR. DIEFFENBACH.

THREE cases (in addition to one detailed in our review of the author's work in the present number, p. 22), have been operated on,

and in all their results were completely successful. The disease had in all the patients existed for several years, and affected in all a number of the muscles of one side of the face, so that the eye was often violently closed, and the angle of the mouth involuntarily pulled up or downwards. To divide the orbicularis palpebrarum sufficiently, three subcutaneous incisions were necessary, one upwards, a second downwards, and a third outwards. They were all made with a fine curved knife, run in at the level of the outermost fibres, carried to the edge of the tarsal cartilage, and in withdrawing it made to cut through the whole breadth and thickness of the muscle, and down upon the thin layer of wood, with which the eye ball was defended. The section through the cheek extended from the ala of the nose to the anterior border of the masseter; the knife being passed in at the latter place, and carried with its back just under the skin to the former. To divide the muscles of the angle of the mouth, a similar section was made from it obliquely downwards to the lower edge of the lower jaw.

The immediate result of the operation was cessation of the spasmodic contractions, either complete, or so as to leave but a slight vibration. Pads of charpie strapped down pretty firmly were necessary to limit the hæmorrhage under the skin, but no severe symptoms ever followed; and within a few days every one of the patients was thoroughly well.—*Medicinische Zeitung*, and *Brit. and For. Med. Rev.*

COFFEE AN ANTIDOTE IN POISONING BY MORPHIA.

By DR. B. FOSGATE.

To relieve himself of a severe attack of toothache, Dr. Fosgate swallowed in solution one and a quarter grain of the sulphate of morphia, equal to about seven and a half grains of solid opium. In about half an hour, a sensation of thickening and rigidity of the muscles of the back of the neck came on, and gradually extending itself to all the flexors of the limbs. In about five hours, severe nausea succeeded, accompanied by efforts to vomit. Tea and sour cider increased the efforts to vomit so much, that the stomach rejected fluids the moment they reached it, so that a second mouthful could not be swallowed before the first was ejected. Prostration of strength and apathy, with full slow pulse, and pricking sensation of the skin, were added to the other symptoms, which were continually increasing in severity, when coffee was proposed. One gill of cold strong infusion of coffee was swallowed, and was retained about five minutes; the dis-

troubling symptoms, however, were by it abated, the nausea in part subsided, as was also the sensation of rigidity of the muscles; and the occasional repetition of this simple remedy during the course of the night completely removed all the distressing symptoms. Dr. Fosgate states, that, whilst suffering from the severe nausea, but previous to the exhibition of the coffee, his mind was depressed, and he felt considerable anxiety, no pleasurable sensations or reveries having been felt. But after the draughts of coffee, the depression of mind and all anxiety vanished, and there succeeded that exquisite revelling of the imagination so much sought after by the opium eater. This state continued for five or six hours, and was succeeded by sound sleep, on awaking from which he experienced a few hours lassitude. The morphia had been taken after eighteen hours fasting.—*American Journal of the Medical Sciences*; and *Edinburgh Medical and Surgical Journal*.

AGATHOTES CHIRAYTA.

(GENTIANA CHIRAYITA).

CHIRAYTA is allied to gentian in its botanical characters, and also in its medicinal effects. It is a useful tonic, and has no tendency to produce constipation. Its flavour is intensely bitter, although it is preferred by some patients to gentian, and is decidedly less nauseous than cascarilla. It has long been in use among the natives of India. The dried plant is generally employed, sometimes with the root attached, but the small stems alone are more often met with in the market.

INFUSION OF CHIRAYTA.—ED. PH.

R Chiraytæ, ʒss.

Aquæ ferventis, Oj.

Macera per horas duas et cola.

Mr. Squire states, as the result of experiments, that a temperature not exceeding 180° produces a more agreeable infusion than 212°, which he finds to be the case with bitter infusions generally.

We have not been able to find any authorised formula for the tincture, but it has been prepared as follows:—

R Chiraytæ, ʒij.

Sp. Vini Ten. ʒxvj.

Macera per dies quatuordecim et cola.—

Pharm. Journ. and Trans.

GLOSSITIS TERMINATING IN ABSCESS.

IDIOPATHIC glossitis is an affection by no means common, and, I believe, it is even more rare to find it terminating in circumscribed abscess. For the above reasons, I have thought it right to publish the following case.

Robert Anderson, aged 30, was admitted

into the Meath Hospital, complaining of pain in the tongue, with difficulty of swallowing, and indistinctness of articulation. The tongue was enlarged, particularly on the left side, about the centre of which a well defined tumor existed, hard, and extremely painful to the touch. Pulse ninety, hard, and full. He had not taken any medicines that could have produced this affection. On the following day a soft spot was detected on the under surface of this hardness, which, on being punctured, gave exit to about a thimbleful of thick, yellow, and very offensive pus. From this he got instantaneous relief, and left the hospital the same evening.—*Dr. Graves in Dublin Journal*.

OF THE STATE

IN WHICH

UREA EXISTS IN THE URINE.

BY MM. CAP AND HENRY.

THESE chemists some time ago asserted that urea exists in the urine in combination with lactic, and perhaps also phosphoric acids; but this circumstance was denied by M. Lecanu. They therefore repeated their experiments, and arrived at the conclusion that their former statement was correct. They evaporated urine at a low temperature to dryness, and mixed the residue with twelve times its weight of a fluid composed of two parts of sulphuric ether and one of alcohol. After a few days the ethereal solution was filtered and evaporated, saturated with a slight excess of an alkaline carbonate, again filtered, and, on exposure to a gentle heat, fine prismatic crystals of lactate of urea were obtained, in every respect identical with those obtained by the direct combination of urea with lactic acid.—*Archives Générales de Médecine*, and *Ed. Med. and Surg. Journal*.

TUBERCLES OF THE BRAIN IN CHILDREN.

To the Editor of the Medical Gazette.

SIR,

I SHALL feel obliged if you will permit me to correct a slight error which has occurred in your report of the proceedings of the last meeting of the Royal Medical and Chirurgical Society. You state, in reference to my paper on tubercles of the brain in children, that “a discussion took place, relating chiefly to the degree in which the pathology of tubercles of the brain was known in England.”

This was not exactly the point on which the brief discussion took place. In the commencement of my paper I had mentioned, as my excuse for addressing the Royal Medical and Chirurgical Society, “that although tubercle of the brain was a disease of very frequent occurrence among children, it had not

been described in any work on *diseases of children* with which I was acquainted."

Both the President* and Dr. Addison seemed to think that this statement was erroneous, and that the disease was familiarly described in various works, which latter, however, were not mentioned.

It is possible that many treatises and monographs on diseases of children may have escaped my notice; and as I should be unwilling to lay before the Medical and Chirurgical Society any observations that did not possess some degree of novelty or originality, I would feel peculiarly obliged to Dr. Addison if he will point out to me any work on children's diseases, or any essay which contains even a brief description of tubercle of the brain in children.

In the last edition of Dr. Underwood's treatise (p. 308) Dr. Marshall Hall dismisses this important subject with a *single* word; but, brief as this notice is, it is the only one that I can find, with the exception of a few theses and articles in periodical journals.

I am sir,

Your obedient servant,

P. HENNIS GREEN.

58, Margaret Street, Cavendish Square,
February 5, 1842.

MIDWIFERY CHAIR.

LONDON UNIVERSITY.

To the Editor of the Medical Gazette.

SIR,

It having been reported that I am a candidate for the vacant chair of midwifery at the London University College, I beg to state that there neither is, nor ever has been, the slightest foundation for such a report; and I shall feel much obliged if you will permit me publicly to contradict it through the medium of your journal.—I am, sir,

Your obedient servant,

EDW. RIGBY, M.D.

Jan. 24, 1842.

NOTICE.

We cannot insert the letter of A. Z. in answer to that of Messrs. Marshall and Garrod—unless the writer consents to give his name.

ROYAL COLLEGE OF SURGEONS.

LIST OF GENTLEMEN ADMITTED MEMBERS.

Friday, Feb. 4, 1842.

R. W. Spry.—W. Adams.—E. Tomlinson.—G. Howells.—J. H. Strickland.—R. Taylor.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, January 27, 1842.

R. Wellings, Loughborough.—C. B. Smith, Filbeck.—F. J. Priest, Hull.—A. Anderson, Newcastle-upon-Tyne.

A TABLE OF MORTALITY FOR THE METROPOLIS,

Shewing the number of deaths from all causes registered in the week ending Saturday, Jan. 29, 1842.

Small Pox	12
Measles	25
Scarlatina	11
Whooping Cough	59
Croup	10
Thrush	1
Diarrhœa	9
Dysentery	3
Cholera	0
Influenza.....	2
Typhus	16
Erysipelas	9
Syphilis	2
Hydrophobia.....	0
Diseases of the Brain, Nerves, and Senses ..	176
Diseases of the Lungs, and other Organs of Respiration.....	407
Diseases of the Heart and Blood-vessels	18
Diseases of the Stomach, Liver, and other Organs of Digestion	65
Diseases of the Kidneys, &c.....	7
Childbed	7
Ovarian Dropsy	2
Disease of Uterus, &c.	1
Rheumatism	0
Diseases of Joints, &c.	0
Ulcer	1
Fistula	0
Diseases of Skin, &c.	0
Diseases of Uncertain Seat	142
Old Age or Natural Decay.....	109
Deaths by Violence, Privation, or Intemperance	17
Causes not specified	5

Deaths from all Causes 1116

METEOROLOGICAL JOURNAL.

Kept at EDMONTON, Latitude 51° 37' 32" N.
Longitude 6° 3' 51" W. of Greenwich.

February	THERMOMETER.	BAROMETER.
Wednesday 2	from 24 to 45	30·05 to 30·14
Thursday . 3	37 45	30·28 30·33
Friday . . 4	34 40	30·33 30·30
Saturday . 5	27 36	30·17 30·09
Sunday . . 6	26 37	30·02 29·85
Monday . . 7	23 37	29·70 29·63
Tuesday . 8	27 41	29·71 29·74

Wind, west on the 2d; west in the morning, east in the afternoon and evening of the 3d; east on the 4th; east and north east on the 5th; since north east.

On the 2d, afternoon clear, otherwise overcast. The 3d, cloudy. The 4th, a general overcast. The 5th, morning overcast, afternoon clear, evening cloudy. The 6th, evening clear, otherwise cloudy. The 7th, overcast, snow and rain fell in the morning. The 8th, a general cloud, raining very fast during the morning.

Rain fallen, 0·8 of an inch.

CHARLES HENRY ADAMS.

ERRATUM.—At p. 754, in a note to an analysis of "Facts and Impressions on Medical Subjects," it is stated that it contains cases "which it is conceit to publish in this fashion"—an expression totally different in meaning from what we intended. For "it is conceit," &c. read "which it is his conceit (*i. e.* his fancy) to publish in this fashion."

WILSON & OGILVY, 57, Skinner Street, London.

THE
LONDON MEDICAL GAZETTE,

BEING A
WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

FRIDAY, FEBRUARY 18, 1842.

LECTURES

ON THE

PRINCIPLES AND PRACTICE OF
PHYSIC,

Delivered at King's College, London,

BY DR. WATSON.

Diseases of the abdomen: sometimes difficult to identify. Method of investigating these diseases; by the eye, the hand, the ear. Inflammation of the peritoneum: its symptoms; and causes. Puerperal peritonitis. Peritonitis from perforation.

I AM about to consider the diseases of the abdomen. The organs contained in this cavity of the body are not vital organs in the same sense in which the brain, the heart, and the lungs, are vital. That is to say, the *functions* of the abdominal viscera will bear to be suspended for some considerable time, without the extinguishment of life. But these parts are subject to numerous diseases, some of which are apt to be quickly fatal, and others carry with them a vast amount, and very severe kinds, of suffering.

The parietes of the fore part of the belly being soft and flexible, you might naturally suppose that the physical morbid conditions of the organs they cover would submit themselves to an easy diagnosis; that the sense of touch, exercised through these yielding walls, would detect alterations of bulk, and form, and place, in the subjacent viscera, with much facility and exactness. But the truth is, that since the discovery of the method of auscultation, the diseases of the abdomen are much more hard to discriminate than the diseases of the thorax. The reason of this is to be found in the number and complexity of the parts contained in the abdomen; the loose manner in which some of them are packed; and the consequent

readiness with which they pass out of their proper and natural situations. It is necessary that I should say a few words, but I shall not detain you long, respecting the *mode of examining* the abdomen, with the purpose of investigating its diseases.

In the description of symptoms, we are often obliged to speak of particular portions of the abdomen; and it will be of future convenience to us if we make ourselves acquainted, at starting, with such a superficial map, marking out the topography of the belly, as I exhibited to you some time since, in reference to the chest. Draw a horizontal line round the body, touching the extremity of the ensiform cartilage; and this will form the superior boundary of the abdomen, thus roughly defined for practical purposes. Draw another such line round the body, horizontally, touching the lower edge of the last false ribs: and a third touching the crest of each ilium. We then have three horizontal *zones* formed. These must be further divided by vertical lines: one on each side from the anterior spinous process of the ilium perpendicularly upwards. Each zone will thus be subdivided into three regions. The middle region of the upper zone is the *epigastric* region: on either side are the *hypochondria*. The middle region of the middle zone is the *umbilical* region; the *iliac* regions or the *flanks* lie to the right and left of it. The *hypogastric* region is the middle region of the lowermost zone; and the *inguinal* regions are contiguous to it. This is all the division which is necessary.

Now independently of the *general* signs of diseases that have their seat in the abdomen, we are greatly assisted in many cases by the *physical* signs. I shall take a very brief survey of the modes by which these physical signs are collected. They are derived from the exercise of the three senses of sight, of touch, and of hearing.

The sense of sight supplies, occasionally, very valuable information; and in all serious and equivocal cases we must not dispense

with its use. We are not, indeed, to make an ocular inspection of the *naked* abdomen *unnecessarily*: and I hold it superfluous to admonish you that when we *do* avail ourselves of that means of investigation, especially in the case of females, we are bound to do so with the most careful attention not to offend the patient's delicacy. We may sometimes ascertain all that is required concerning the *movements*, *size*, and *shape* of the abdomen, without removing the under garments.

This rule applies, indeed, to all parts of the body that are ordinarily covered by the dress.

I was lately consulted by a lady, who told me she had, on the rear of her person, a painful boil. She thought any physician ought to be competent to prescribe for a boil, without wanting to see it. But she seemed very ill, and her sister told me that the boil had lasted a fortnight, and was a very large one; so that I was obliged to press for an inspection. And I found—a boil sure enough, but of that gigantic and formidable species which we call *carbuncle*.

M. Rostan relates a case still more in point. Going round the wards of his hospital, he came to an old woman, who was complaining of severe pain in the abdomen, towards the left iliac region. Her face was flushed, her skin hot, her pulse strong and frequent, her tongue dry; and she was very thirsty. The abdominal pain was exasperated by pressure, and by the movements of the patient. Upon these data, Rostan founded his diagnosis. He concluded that the case was one of acute abdominal inflammation; and he prescribed accordingly; and with befitting energy. One of the pupils, however, lingered behind him: and having removed the woman's chemise, in order to examine the seat of the pain, he discovered that all the symptoms proceeded in reality from a very harmless, though troublesome, disorder, *herpes zoster*; what is vulgarly called *the shingles*.

“vestis adempta est,
Quâ positâ, nudo patuit cum corpore crimen.”

In the second place, we gather very important intelligence by the sense of *touch*. We learn the existence and the size of *tumors*; we approximate to a knowledge of their nature, whether it be solid or fluid; we determine whether they are moveable or fixed, painful or indolent, pulsating or not. We ascertain whether the surface be hot or cold. In order to make palpation most effectual, the patient should be placed in the most favourable posture for its performance; *i. e.*, he should lie on his back, with his head a little raised, and his knees up. In this position, the abdominal muscles are relaxed and unstrung: and the patient is to

be cautioned not to do any thing which may make them tense. Sometimes, in spite of this caution, and in spite, probably, of the patient's endeavours to obey it, the recti muscles remain so tightly contracted as to prevent any satisfactory examination of the parts beneath them. The very occurrence of this instinctive striving against the pressure of our hand may be taken as a ground of suspicion that those parts are not in a healthy state. We must take care, when the muscles are thus obstinately rigid, not to mistake the swelling central portions of the recti, or their well-defined edges, for tumors; or for indications of an enlarged stomach or liver. By a peculiar management of the palpation, we often satisfy ourselves at once of the presence of liquid in the cavity of the peritoneum, or in a cyst: we obtain that sensation which we call *fluctuation*.

The exploration by the sense of touch is very much aided—often confirmed, sometimes corrected—by that which addresses itself to the sense of hearing. Sometimes we listen to the natural sounds through a stethoscope: and we may thus decide the important question, whether a pulsating tumor be or be not an aneurism; or the question, sometimes scarcely less important, whether a different kind of tumor encloses another living being or not. But, for the most part, our information respecting the maladies of the abdomen, collected by the sense of hearing, is obtained by listening to sounds which we ourselves produce; in one word, by *percussion*: and mediate percussion, percussion performed through the finger, as a ready pleximeter, is *particularly* applicable to the disorders of the abdomen. By this expedient we can tell whereabouts the intestines lie; whether the parts beneath the place percussed be hollow and filled with air, or solid; or though naturally hollow, distended with liquid. By making the patient change his posture, we are enabled often, through the aid of percussion, to trace fluid effusions hither and thither, when they have changed their relative situation, by reason of the force of gravity; and then we know that they occupy the cavity of the peritoneum. All these points I pass over cursorily, because I must advert to them again when speaking of particular diseases. And I shall proceed, on that account, without further delay, to the consideration of those special diseases.

Consulting your convenience, and my own, rather than any scientific order, I shall take, in succession, the several parts and organs contained in the cavity of the belly, and inquire separately into their diseases; inflammatory, organic, and functional. And I begin with the *peritoneum*; the great serous sac which lines and constitutes the cavity of the abdomen, and in which most

of its viscera are wholly or partially enfolded.

Like the serous membranes in general, the peritoneum is very *ready* to take on inflammation, upon the operation of certain exciting causes. Acute inflammation, beginning in one spot, is almost sure to transfer itself to any other spot that happens to lie in contact with the first; and is very apt to extend itself rapidly to the whole membrane. The inflammation tends to the effusion of serum and of coagulable lymph; it is of the adhesive kind; and its effects are those of distending the peritoneal cavity with fluid—or of gluing its opposite surfaces together so as to obliterate that cavity—or of forming *partial* attachments. In all these respects, the analogy between inflammation of the peritoneum and inflammation of the serous membranes of the thorax—the pleura, and the pericardium—is perfect: and therefore these are points which I shall not dwell upon, except where specific differences arise, from original diversities of structure or function in the parts affected. I may observe at once, that the morbid conditions that are apt to remain *after* peritonitis, are sometimes, like those which follow pericarditis, *inceptive of farther disease*; sometimes, like those of the pleuræ, *final*, and limited to their *immediate* influence upon the health and comfort of the individual: or even *protective* against some worse evil.

Acute inflammation of the peritoneum is characterised by pain in the abdomen, increased on pressure, and attended with fever. But as these symptoms are common to almost all the inflammatory conditions of the parts contained in the abdomen, we must look for more distinctive circumstances. Cullen defines the disease in this manner. “Pyrexia: dolor abdominis, corpore erecto auctus, absque propriis aliarum phlegmasiarum abdominalium signis.” He concludes that it is the peritoneum simply that is inflamed, when the specific symptoms that indicate inflammation of particular organs are wanting. It is not inflammation of the liver, for there is no pain of the right hypochondrium in particular, increased by lying on the left side; no pain of shoulder, no jaundice, no vomiting perhaps: neither is it inflammation of the bowels or stomach, for there is no disturbed function of the alimentary canal to denote such inflammation.

The pain, Cullen says, is increased if the patient sits up. He might have added, that it is increased also by drawing a long breath, by coughing, sneezing, or straining, and by pressure made with the hand upon the belly. All these circumstances resolve themselves into the same obvious principle; viz., that of pressure aggravating the pain of an inflamed membrane. The erect posture throws

the weight of the viscera upon the peritoneum, and tends to stretch parts of it. The pain occasioned by pressure is often excessive; the patient cannot even bear the weight of the bed-clothes. Though the pain is, *at first*, sometimes confined to particular spots, yet it generally soon extends over the whole abdomen; and this is a circumstance of some importance as respects the diagnosis. But *before* the inflammation has become universal, while it is yet restricted to particular spots, the pain is often much increased by pressure made on *other* parts of the abdomen. In truth, in a shut sac of that kind you cannot compress any one part without exercising pressure, indirectly, upon every other part. The patient cannot sit up, nor usually, lie on his side; but remains always upon his back: in which position you will perceive that the pressure made by the viscera upon the peritoneum is a *minimum*; is the least possible. He draws up his legs too. And he lies *still*: for *movements* cause pressure, and therefore pain. The descent of the diaphragm in inspiration presses also upon the membrane: and the patient not only complains of the pain thus produced, but, in order to avoid it, gets into a way of breathing by means of his ribs only. So that, upon *inspection* of the abdomen, it is perceived that, instead of rising and sinking alternately in respiration, it remains motionless. The phenomenon of *thoracic* respiration is a symptom of peritonitis. The breathing is necessarily shallow in these cases, and less air is admitted at each movement of respiration, and therefore, the number of those movements is increased: the breathing is quick as well as shallow: there are perhaps 40, or even 60 respirations executed in a minute, instead of 18 or 20. When we find a person lying only on his back, with his knees up, breathing in this manner, and complaining of tenderness of the belly on pressure, and feverish withal, we may be tolerably sure (unless that person be an hysterical girl) that the peritoneum is inflamed, whatever else may be the matter.

The pain in peritonitis is generally sharp, cutting, or pricking in its character. And independently of any pressure made from without, or caused by any change of posture, this pain is apt to be much aggravated at intervals. This, when the inflammation is general, is sometimes owing to the passage of flatus along the bowel, partially distending it, and stretching the inflamed membrane; so that here, also, it is virtually *pressure* which augments the pain.

When you explore the abdomen by pressure, take care not to make the examination *unnecessarily* a source of pain. Press first gently, with the open flat hand; and keep your eyes on the patient's face at the same time. You will perceive, by the expression

of his features, whether you are hurting him; even before he takes to verbal complaining.

Acute peritonitis generally sets in with well-marked symptoms: sharp rigors, and high fever, with a hard and strong pulse, which very soon becomes frequent, and often becomes feeble, and is sometimes small from the very first. After the disease has continued for a certain time, it is attended with tension and swelling of the belly. The tension and swelling are tympanitic in the earlier stages. You learn this with certainty by mediate percussion. As the disease advances, the enlargement is sometimes occasioned, in part at least, by the effusion of serum: of the presence of which infallible indications may be obtained by the joint employment of the finger and the ear; by palpation and auscultation; and by noticing the difference, as to the results of percussion, caused by alterations of posture.

When the disease is advancing towards a fatal termination, the abdomen often becomes greatly distended; the pulse is exceedingly frequent and feeble; the countenance (which in all the stages of the disorder is expressive of anxiety) becomes pinched and ghastly; cold sweats ensue; and the patient dies at length by *asthenia*: death beginning at the heart. The mind is often clear to the very last.

Such is the ordinary course of peritonitis. But other symptoms, which I have not mentioned, do sometimes accompany it; arising out of the peculiar circumstances of different cases. Thus sickness and vomiting may occur: and these symptoms are supposed to denote that the peritoneal covering of the stomach is especially implicated: but I question whether this is always a correct inference. When strangury happens, which is not uncommon, that part of the membrane which is reflected over a portion of the bladder is probably involved in the mischief. Inflammation of that part of the peritoneum which lies in the immediate vicinity of the kidneys, may cause, Dr. Abercromby thinks, suppression of urine.

Peritonitis is apt to arise under the influence of cold, like other internal phlegmasiæ: especially when cold combined with moisture is applied, under certain conditions, to the surface of the body. It is occasionally produced by mechanical injuries inflicted upon the abdomen. It often prevails epidemically, and produces great mortality, among parturient women: and there is ground for believing that this form of the disorder is propagable, and often propagated, by contagion. Besides this, a very terrible kind of peritonitis is the frequent result of the extravasation of the contents of the alimentary canal, or of urine, or

of bile, into the cavity of the membrane; through apertures that are sometimes made by external violence, but more often are the consequences of the progress of previously-existing disease.

I shall make a few observations in respect to one or two of these points, and but a few.

That awful disorder, *puerperal fever*, is more frequently accompanied with *inflammation of the peritoneum*, than with any other inflammation. This variety of peritonitis necessarily engages the attention of the accoucheur; and it doubtless is more fully considered in the lectures of the Professor of Midwifery than I propose to consider it. Indeed, if you would understand puerperal fever as a whole; its shifting aspects, its single source, and its appropriate management; you must study Dr. Ferguson's masterly and conclusive essay on that subject.

Of 44 fatal cases of well-marked puerperal fever which fell under the observation of Dr. Robert Lee, and in which the bodies were carefully examined, the *peritoneum and uterine appendages* were found inflamed in 32: *i. e.*, in 8 cases out of every 11. The inflammation commences, no doubt, in the uterine portion of the membrane, and spreads thence over the larger part of its surface. Now this peritoneal inflammation, occurring to women in childbed, may be accidental and sporadic; or it may prevail in a district epidemically. And a most dreadful and deadly affection it may then become. In either case, the peritonitis may commence a few days, or even a few hours, after parturition. The pain generally begins low in the abdomen, in the situation of the uterus; which may be felt through the abdominal parietes, and is tender on pressure: but soon a universal swelling takes place, and the womb can no longer be distinguished. Cases of this kind arise sometimes, apparently, from cold; and exhibit no peculiar feature. It is just what we might expect when a female, in a state of weakness and irritability, happens to be exposed to the exciting causes of inflammation. In such a state, a less degree of the exciting cause would be sufficient to produce the inflammation: and probably a less degree of inflammation may prove fatal.

But when peritonitis is frequent among women after child-birth in a particular neighbourhood, or in a Lying-in Hospital, it is marked by greater depression of the vital powers, and runs a more irregular course. The nervous system suffers, the sensorium is apt to become affected, and the complaint assumes rather the character of continued fever than of simple inflammation of the peritoneum. And no wonder; since this variety of peritonitis forms part of a disease which, like continued fever, is a *general*

disease, and results from contamination of the blood. This Dr. Ferguson has clearly established. The contamination may originate in the body of the patient herself: the noxious material being supplied by putrid coagula, or portions of placenta, remaining in the uterus; or some of the products of inflammation may enter the blood-vessels, and constitute the poison. And this it may be difficult, or impossible, to prevent. But, on the other hand, the contamination may arise in the way of *contagion*: this horrible malady may be communicated from one lying-in woman to another by the intervention of a *third person*: and doubtless it is so carried and propagated, in many instances, by midwives and accoucheurs. Now this source of the disorder may be obviated; and therefore it is of the utmost importance that it should be clearly recognised, in order that it may be carefully provided against.

You must know, however, that great differences of opinion have existed, and, I believe, still exist, in respect to the contagious quality of certain forms of puerperal peritonitis; just as great differences exist as to the contagiousness of continued fever, of cholera, of the plague. There are parties who regard the whole notion of contagion as a mere bugbear: and there are others who embrace in their allegations of contagion many more diseases than can be *proved* to be so caused. The same strong assertions are made, the same kind of eagerness is displayed (the same *party-spirit*, I had almost said) as mark the strife of ordinary politics. It is our serious duty, however, to inquire what is the truth in this matter: for the safety of individuals, and the happiness of whole families, may often hang upon our opinions. I must trouble you, therefore, with a few facts that bear closely upon the subject.

We possess some valuable and highly instructive accounts of epidemics of the kind I am alluding to. One by Dr. Gordon, on the epidemic peritonitis after child-birth, which took place at Aberdeen in the years 1789, 1790. Another by Mr. Hey, on that which happened at Leeds from 1809 to 1812. And a third by the late Dr. Armstrong, on that which was observed in Sunderland and its neighbourhood in 1813. Dr. Robert Lee has also collected some very interesting facts in reference to the spreading of the peritonitis by contagion. Dr. Gordon affirms, that he had unquestionable proof that the cause of the disease was a specific contagion, and that it did not arise from any noxious constitution of the atmosphere. The disease seized such women only as were visited or delivered by a practitioner, or taken care of by a nurse, who had previously attended patients affected with the same disorder. And Dr. Armstrong

observed that 40 out of the 43 cases that happened in Sunderland, occurred in the practice of one surgeon and his assistant.

From among other histories—all tending to the same conclusion—brought together by Dr. Lee, I take the following:—

“On the 16th of March, 1831, a medical practitioner, who resides in a populous parish on the outskirts of London, examined the body of a woman who had died a few days after delivery, from inflammation of the peritoneal coat of the uterus. On the morning of the 17th of March (*i. e.* the *next* morning), he was called to attend a private patient in labour, who was safely delivered on the same day. On the 19th, she was attacked with severe rigors, great disturbance of the cerebral functions, rapid feeble pulse, with acute pain of the hypogastrium, and a peculiar sallow colour of the whole surface of the body. She died on the fourth day after the attack, on the 22d March; and, between that period and the 6th of April, the same practitioner attended two other patients, both of whom were attacked by the same disease in a malignant form, and fell victims to it. On the 30th of March he bled a young woman who had pleurisy: the wound became inflamed after a few days; erysipelas, redness, and swelling, extended from it up the arm; and in four or five days that patient died of phlebitis.”

Mr. Robertson, of Manchester, states the following facts, in a paper in the *MEDICAL GAZETTE*:—From the 3rd of December, 1830, to the 4th of January, 1831, a midwife attended thirty patients for a public charity. Sixteen of these were attacked with puerperal fever, and they all ultimately died. In the same month, 380 women were delivered by other midwives for that institution; but none of the 380 suffered in the smallest degree. All the sixteen had inflammation of the peritoneal surface of the uterus. So, also, Dr. Robert Lee tells us that, in the last two weeks of September, 1827, five fatal cases came under his observation. All the patients had been attended in labour by the same midwife: and no example of a febrile or inflammatory disease of a serious nature occurred during that period among the other patients of the same dispensary, who had been attended by the other midwives belonging to the institution.

Statements of this kind—and they could be largely multiplied—furnish irresistible evidence, that the peritonitis, which prevails epidemically among lying-in women, is of a specific nature, and communicable from one person to another. It is observed, also, to reign as an epidemic especially in *Lying-in Hospitals*, and that it recurs at *irregular intervals*, sometimes leaving them quite exempt from its ravages for *years* together.

Indeed, I believe that these cases of puerperal fever occurring in succession to the same practitioner, are examples of something more than ordinary contagion, operating through the medium of a tainted atmosphere. I believe them to be instances of direct inoculation. Recollect, that the hand of the accoucheur is brought, almost of necessity, into frequent contact with the uterine fluids of the newly-made mother. Recollect,—those among you who have examined the interior of the dead body with your own hands,—recollect, with what tenacity the smell, which is thus contracted, clings to the fingers in spite even of repeated washings; and, whilst this odour remains, there must remain also the matter that produces it. Recollect how minute a quantity of an animal poison may be sufficient to corrupt the whole mass of blood, and fill the body with loathsome and fatal disease. Illustrations will occur to you in the inoculated small-pox, in hydrophobia, in the viper-bite, in the scratches and punctures of the dissecting-room. Recollect the raw and abraded state of the parts concerned in parturition; the interior of the uterus forming a large wound, and presenting, as Dr. Ferguson observes, an exact analogy to the surface of a stump after amputation; the more external soft parts bruised and sore. Bear in mind the remarkable fact, that this contagion does not affect other persons, but only lying-in women. Recollecting these facts, you will see too much likelihood in the dreadful suspicion, that the hand which is relied upon for succour in the painful and perilous hour of child-birth, and which is intended to secure the safety of both mother and child, but especially of the mother; may literally become the innocent cause of her destruction: innocent no longer, however, if, after warning and knowledge of the risk, suitable means are not used to avert a catastrophe so shocking.

I need scarcely point to the practical lesson which these facts inculcate. Whenever puerperal fever is rife, or when a practitioner has attended any one example of it, he should use most diligent ablution; he should even wash his hands with some disinfecting fluid, a weak solution of chlorine for instance: he should avoid going in the same dress to any other of his midwifery patients: in short, he should take all those precautions which, when the danger is understood, common sense will suggest, against his clothes or his body becoming a vehicle of contagion and death between one patient and another. And this is a duty so solemn and binding, that I have thought it right to bring it distinctly before you.

In these days of ready invention, a glove, I think, might be devised, which should be impervious to fluids, and yet so thin and

pliant as not to interfere materially with the delicate sense of touch required in these manipulations. One such glove, if such shall ever be fabricated and adopted, might well be sacrificed to the safety of the mother in every labour. Should these precautions all prove insufficient, the practitioner is bound, in honour and conscience, to abandon, for a season, his vocation.

That variety of peritonitis which results from perforation of the stomach or intestines, and the effusion of their contents into the cavity of the belly, is full of interest. The inflammation is violent in degree; universal (generally) in extent; and almost always fatal. The attack is characterized by its *suddenness*. All at once intense pain arises in some region of the abdomen, which soon becomes tender in every part. The pain is incapable of removal, and generally even of mitigation, by medicine, and death takes place in a short time. These are the general features of such cases. Occasionally, the symptoms follow some different order. Thus, I have seen a case in which no pain was complained of, and the source of the inflammation was not suspected until the dead body was examined. This was a case of *fever*; and it had been attended with much stupor, which was probably the reason that no indication of suffering was made by the patient. Occasionally, but that is uncommon, the pain intermits. For the most part, however, it resists all treatment, and ceases only with life, or a short time before life is terminated.

Most of the instances of this kind of peritonitis that I have witnessed have resulted from perforation of the ileum, in the progress of continued fever. You are already aware, that the glandulæ agminatæ, which are found only in that bowel, and the glandulæ solitariae, which are scattered over nearly the whole inner surface of the alimentary tube, are very liable, in continued fever, to inflammation, sloughing, and ulceration: and sometimes the ulcers *go through*: the contents of the gut are poured into the cavity of the serous membrane, and intense inflammation is lighted up. I purposely abstain from going into any particulars respecting these ulcers. We are no further concerned with them at present than as they furnish the channel by which the cause of the peritoneal disease is introduced. Once, and once only, as I stated before, have I known perforation occur from the extension of scrofulous ulceration of the same glands in *phthisis*. In general, in that disease, the ulcer runs a much slower course. As it approaches the peritoneum, circumscribed chronic inflammation is set up in that membrane; lymph is thrown out; and the bowel becomes adherent to some other portion of the canal, or to some of the other viscera of the abdomen. In this way the perforation is prevented;

or, should it take place, the escape of the contents of the bowel into the peritoneal sac is prevented. Occasionally, when two portions of the tube thus adhere together, a communication is formed between *them*, and the contents of the intestine either reach an advanced point of their stated journey by a short cut; or are carried back again perhaps to a spot which they had already passed.

A very curious instance of this latter event has been described by Dr. Abercromby. A man, fifty-six years old, who had shown no signs of serious illness, but had laboured under impaired appetite, languor, and occasional pain in the abdomen, for two or three weeks, was suddenly seized, while out walking, with vomiting; and he observed that what he brought up was stercoraceous: and this occurred again and again, at variable intervals; the matter vomited being distinctly faecal, and sometimes so solid that he was obliged to swallow warm water to soften it, that it might be expelled from the stomach more easily. He never vomited his *food*; and no tumor, or other sign of organic disease, could be detected by external examination. He lived about three months, and died at last of exhaustion: and then it was discovered that the stomach and transverse arch of the colon were adherent to each other, and that a ragged aperture of communication between them existed at the place of adhesion.

It is a curious fact, that the vermiform appendage of the cæcum is not unfrequently the seat of a penetrating ulcer. I have traced little groups of glands in that slender tube: and I have known perforation to happen from the specific ulceration of continued fever; and from the accidental ulceration caused by a cherry-stone lodged there.

Sometimes it is the *stomach* that is perforated, either by a common or by a specific ulcer; and the symptoms are exactly the same as when the *bowel* gives way. Sudden, unremitting pain; tenderness, and tympanitic distension of the abdomen; and early death.

Perforating ulcers of the stomach are of various kinds. It is not uncommon to find one small roundish hole, with edges as smooth and clean as if a piece of the stomach had been cut out by a punch, and without any surrounding hardness, or other mark of disease. Occasionally the orifice is more irregular, and occupies the centre of a thickened and indurated patch of the mucous membrane. Several instances of this sort of perforation have occurred under my own eye; two within the last fourteen months (1839). Almost all the patients have been young women, plump, and in good condition; who, up to the moment of the fatal seizure, either seemed to enjoy perfect health, or, at most, had complained of slight and vague feelings of dyspepsia. Ulcers of the stomach are,

however, mostly chronic; and the diseased viscus is commonly fenced about and protected by adhesion to the neighbouring parts, before its coats are completely penetrated by the ulcer. You are probably aware that this happened in the body of Napoleon Bonaparte. He died of cancer of the stomach. That organ was strongly adherent to the concave surface of the left lobe of the liver, which formed a part of the wall of the stomach; and this adhesion, no doubt, prolonged his life.

Usually the actual perforation, in cases such as we are now considering, takes place merely from the natural progress of the ulcer; but sometimes it would appear that the thin membrane which remains is broken by some accidental force applied to it. Thus the symptoms have immediately followed the act of vomiting, brought on by an emetic. Bouillaud relates an instance in which the perforation happened while the patient was straining at stool; and it is conceivable enough, that rough pressure of the abdomen might complete the rupture, when the ulcer had already eaten through all the coats of the bowel except its peritoneal coat.

Less commonly than this, in my experience at least, the peritonitis is set up by the escape of urine from the *urinary bladder*, through the extension of an ulcer, or from a forcible rupture of that bag by a blow or a fall, when it was distended with urine. Rupture of the *gall-bladder*, whether by violence or from ulceration, has the same results; so also has, in general, the rupture of the *uterus*, which sometimes takes place during the efforts of parturition. *Abscess of the liver*, bursting into the peritoneum, is another occasional source of severe and fatal inflammation of that membrane. Acute and general peritonitis sometimes arises, also, in consequence of penetration from without; *i. e.* it succeeds the puncture made by the trocar in the operation of tapping the belly: and these cases, too, are almost all of them mortal; chiefly, I presume, because, in nine instances out of ten, they occur in an unhealthy and debilitated subject.

I formerly offered you some observations respecting a form of hysteria which very closely *mimics* peritonitis, and would most certainly deceive a medical man who was not on his guard against it. We judge by the age and sex of the patient somewhat; by the presence of hysteria in other forms, or of the hysteric diathesis; by the *excessive* tenderness of the abdomen, or rather of its surface; by the coexistence of the same exquisite sensibility in other parts; and by the incongruity and shifting character of the symptoms. The pulse and the tongue will perhaps be natural, while the abdominal irritation is at its height. Forewarned, you will

seldom find much difficulty in establishing the diagnosis. Of the signs by which peritonitis may be distinguished from enteritis, I shall speak when I come to the latter disease.

NOTES FROM CLINICAL LECTURES,

*Delivered during the present Session,
at Univers. Coll. Hospital,*

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Reported by J. D. HEATON, M.B., Lond.

Dilated hypertrophy of the heart. Regurgitant disease of the mitral valve. Emphysema of the lungs.

WE have already had several cases which illustrate the influence which rheumatism has in producing disease of the heart, especially in young subjects. The following case had not that origin, but occurring in an elderly person, may be in part ascribed to a tendency to a change in the proportions of the heart, which prevails in advanced age. This change I by no means regard as morbid either in its nature or in its effects, but concurrent circumstances may render it so. It has been observed by Bouillaud, Bizot, and Clendinning, that the heart increases in size with age. I think that we must regard this as an effort of nature to compensate by increased strength in the centre of the system the weakness of the circulation which age induces on the circumference. In youth and adult age an equal elasticity and pressure of the blood-vessels contributes to the perfection of the circulation; but in the flabby flesh and wrinkled skin of the aged, the vessels lie unsupported and inelastic, and become loose and tortuous; this weakens the force of the circulation: the increased bulk and strength of the heart is a provision of nature to counteract this imperfection; and the enlarged heart, instead of being morbid, has a salutary effect. But if over-exertion of body or mind, or recent disease, further tax the power of the heart at this period, the change often passes its normal limits, and morbus cordis results.

Robert Archer, age 69, married, admitted Dec. 11, 1841; of rather short stature, stout make, robust appearance, and ruddy countenance. He has generally enjoyed very good health, and has lived temperately. Till last month he has resided in Oxfordshire, as a shepherd and farmer's labourer. He has never had any rheumatic affection.

Last March he caught a severe cold, and had much cough and shortness of breath, with a frequent sensation of fluttering at the epigastrium; but was able to continue his

work, and had no medical advice. He remained at his work till June, when the dyspnœa became so oppressive, that he was obliged to discontinue his employment for a time. He, however, got some medicine from the parish surgeon, and was so far relieved as to be able to return to his work; but much shortness of breath remained, with some cough and expectoration, pulsation at the epigastrium, and flatulence. These have been his principal complaints up to the present time.

In October last he came to town, to reside with a daughter; and since his change of residence he has had better health, till about a fortnight ago, when he began to feel worse, having more shortness of breath, with cough and expectoration.

At present he complains of much shortness of breath, increased on lying down, with some cough, and the other symptoms already related; also much flatulence at the stomach, causing considerable uneasiness. Appetite good; tongue clean; bowels regular. The pulse is soft, very irregular in force and frequency; about 60 beats per minute are perceptible at the wrist. But the irregularity was such, that we could not at all calculate the number of pulsations of the heart by those felt at the wrist. Expectoration pretty copious, simply bronchial, semi-opaque, not very tenacious; not containing masses of opaque flocculent matter, but a uniform glairy mucus.

Physical examination.—There is extensive dulness on percussion in the cardiac region; the impulse is not very forcible, heaving rather than abrupt. There is a loud grating murmur with the impulse of the heart, loudest and superficial at the apex, which beats between the 6th and 7th ribs, far below, and to the left of the left nipple, where the natural sounds are inaudible. At the midsternum the loud murmur with the first sound is less distinct. Here also the second sound is heard distinctly only after the more forcible pulsations; it is accompanied with a very short grating murmur. The pulsations of the heart are very irregular both in force and frequency.

The sound on percussion is pretty equal under both clavicles; in the lower part of the chest, both before and behind, there is the increased resonance of emphysema. The respiratory murmur is audible on both sides; in the right back there is sub-crepitant rhonchus; in the left back it is more mucocrepitant.

Now, both from the symptoms and from the physical signs, we see clearly that this is a case of morbus cordis, and the nature of the disease is well defined. There was, in the first place, extensive dulness on percussion; this might be either from a large heart, or from liquid in the pericardium.

But the latter alternative was negatived by the fact that the impulse was strongly and extensively felt, and was heaving rather than abrupt; it was the prolonged lifting stroke of hypertrophy. The extent of the impulse may be defined more clearly: the apex was seen and felt beating between the 6th and 7th ribs, which is one lower than usual, and four inches below by one inch to the left of the nipple; much lower and more to the left than is natural. The heart occupied a new situation: it was displaced with its increase of bulk; it was but little under the sternum, but reached three inches, if not more, below and to the left of its proper situation. This displacement was apparently a consequence of its enlargement. If the abdominal viscera resist much, the enlarging heart is turned more towards the left; if there is less resistance it descends more, and then the pulsation may be felt in the epigastrium.

Well; now a few words on the sounds. With the first sound a loud grating was heard, loudest and most superficial at the apex. Apex and base are convenient terms for description, but should not be used without stating where these are in the walls of the chest. The apex is moveable; and it is therefore better to state where its movements are felt. *Below and before the left nipple*, generally corresponds with the apex; and *the mid-sternum* with the base. I first pointed out to the profession the distinguishing situations of valvular murmurs, and I then referred them respectively to the apex, or below the left breast: and to the base of the heart, or the mid-sternum and carotid arteries. Similar distinctions have been more recently announced by several writers, at home and abroad, with an air of originality; but if you will refer to dates, you will find that my work had been in print long before any similar views from other quarters.

In accordance with the rules which I have given, we judge, then, from the *situation* of this murmur that it was caused by regurgitation through the mitral valve. We may learn somewhat more by attending to its *character*. The murmur began with the natural first sound; this forming a sort of flapping commencement, most distinct at the epigastrium, corresponding with the right ventricle, but also over the left ventricle. To this flapping sound, then, which was the natural first sound, the murmur was superadded. At the apex, however, the natural first sound was inaudible; nothing was heard but the murmur. In the carotids, and at the top of the sternum, very little murmur was heard with the first sound; hence we conclude there was no obstructive aortic disease. I may here point out how

distinct murmurs often are from the natural sounds; both were heard over the body of the ventricles: but at the apex, which the fleshy pillars and tendons connect directly with the regurgitant current, the strong vibrations of the murmur quite masked the first sound. This is one proof, amongst many, that these have distinct origins. I lay more stress on this, as Dr. Skoda, a German, who has professed to study the sounds of the heart independently, has made the mistake of referring natural sounds and murmurs to the same seat.

The first sound has its seat in the walls and valves, as they tighten at each systole. Valvular murmurs are produced in the orifices, by the vibrations caused by the current in passing through an irregular or unnatural opening. Where the valvular disease is extensive, and the murmurs are very loud, or deep-toned, the natural sounds may be masked, and in fact impaired, by the new vibrations, and by the less sudden and forcible tightening of the walls and valves, which are their seat. So much with regard to the first sound.

The second sound was also morbid. It was loud, but accompanied with a short grating murmur, heard better below the left margin of the mid-sternum (which was over the left ventricle), than towards the centre of the sternum and epigastrium. Remember, in cases of diseased heart, you must not be content to seek for the sounds only in the fixed spots described as their proper situations in health: the heart, in this case, had moved from its place, and we had to seek for the sounds of the aortic valves lower down, and more to the left than usual.

By attending to all these particulars, you may attain a precision of diagnosis in diseases of the heart, almost marvellous.

As I am speaking generally of the physical signs of diseases of the heart, I may refer to another error which Dr. Skoda has made. As he finds the sounds of the heart to have diversities of strength in corresponding situations in different subjects; the first sound for instance, being in some louder over the large arteries, in others over the ventricles;—he infers that these have different causes. But he overlooks entirely the great principle in auscultation, that the loudness of sounds, as we hear them, depends not only on the nearness of their seat, but also on the conducting power of the parts which intervene. The varieties in the shape of the chest, and the amount to which the lung overlaps the heart, varieties of density of the lung, different sizes and positions also of the heart itself, modify the character and loudness of the sounds in different regions.

If, for instance, you have the first sound obscure over the ventricles, where you expect

it loudest, you may find that there is pulmonary-stroke sound in this part, and that the breath-sound is likewise heard; and then you would know that the want of distinctness in the sounds of the heart was owing to the lung overlapping. Where the apex beats, the first sound is louder; and it is so even in the origin of the great arteries in some cases, because there is less pulmonary texture over these parts. I do not deny, (nay, I have long ago stated such to be the fact) that when the heart throws the blood abruptly and forcibly into the arteries, the pulsations on the walls of the latter generate a sound, which may be sometimes heard even in distant arteries; but this is not an usual phenomenon, the ordinary sounds being generated exclusively in the heart.

By taking all these elements into consideration, not merely the causes of the sounds, but also the readiness with which they are conveyed through the intervening parts, you will be able to appreciate all the varieties you will meet with.

From what I have said, the nature of the disease is evident—dilated hypertrophy with regurgitation through the mitral valve, and slight regurgitation through the aortic orifice.

In addition to these we found some disease in the lungs. The middle and lower regions of the chest were resonant from general dilatation of the air cells, and the muco-crepitant rhonchus, together with the viscid expectoration, indicated the presence of bronchitis.

The disease seems to have begun nine months ago, with a severe cold, which was probably bronchitis, becoming chronic, and accompanied with emphysema, as is frequently the case in old subjects; and by these, the tendency to heart disease, naturally existing in the aged, has become developed. Probably this amounted to a partial endocarditis.

So much for the pathology and diagnosis. With regard to treatment, he had already been cupped before admission; and it appeared to me that the thing now principally wanted was to promote expectoration, and increase the secretions, which were defective. He was given these pills, which I have frequently found very useful in the exacerbations of heart disease.

R. Pil. Hydrarg. gr. iv.; Pulv. Scillæ, gr. i.; Ext. Conii, gr. iv. M. ft. pil. omni nocte sumendæ.

R. Vini Colchici; Tr. Scillæ, aa. ℥ x.; Liquor. Potassæ, ℥ xv.; Mi t. Camph. ʒi. M. ft. haust. ter die sumendus.

He took these for some days, with much benefit; but as he complained of feeling rather low, the Pil. Galbani Co. was substituted.

R. Pil. Galbani Co. gr. vj.; Ext. Conii, gr. iv. M. ft. pil. ij. omni nocte sumendæ.

Dec. 16th.—As there was some increase in the viscosity of the sputa, which had rather a brownish tinge, indicating an approach to pneumonia, 1-6th of a grain of tartar emetic was added to the mixture, in place of the liquor potassæ.

The next report is that he was much improved, he slept better, and had less dyspnœa; but for the last two days he has had some pain at the epigastrium.

As the pain at the epigastrium was attributed to the colchicum, this was omitted.

From this time he has gone on rapidly improving; the dyspnœa and the palpitations have gradually diminished; and his face has become more florid, having lost the livid hue which it had at the time of his admission. The cough, also, has become easier, and the sputa have become more loose and opaque. As he is an old man, and requires support, he was soon put on full diet, which quite agreed with him.

He is, at present, much better; the pulse has become almost regular at the wrist, and the circulation is better conducted. The murmur with the first sound of the heart has become altered in character; it is more blowing, and less rough and grating.

He is still troubled with some cough, especially at night; but, unless some fresh attack supervenes, he will soon be sufficiently well to be discharged, and will be able to rub through the winter, though, most likely, the disease of the heart will kill him at some future time.

The only further change made was in consequence of his still complaining of uneasiness at the epigastrium, especially after taking food, for which the following pills were ordered.

R. Bismuthi Trisnitratis, gr. vj.; Extracti Conii, gr. iij.; Pulveris Ipecac: gr. ss. M. ft. pilulæ ij. ter die sumendæ.

This gave him relief, and he was discharged, Jan. 22, in as good a state of health as it is probable that he will ever attain.

Bronchitis—Emphysema—Obstructive and Regurgitant Disease of the Mitral Orifice.

Mary S., age 36, admitted January 23, 1842. She is of middle stature, spare habit, pale complexion, dark hair; she is a native of Ireland, but has resided in London for many years. She has been married nine years, but has never had any children; her husband left her when they had been married five weeks, and has not lived with her

since. She was formerly in good circumstances; but since her husband left her, she has been in much distress. Till within the last few years, her health has generally been good, and she is not aware that she has suffered from any dangerous illness; she has always been nervous and excitable, but not hysterical. Five years ago, she says she was, for the first time, affected with a "spasmodic cough," which came on in the winter without any known cause, and was very violent; but her general health remained good. Since the first attack of this cough, she has been subject to occasional returns of it from time to time. Her medical attendant told her that the cough was a liver cough. One or two years before she was first troubled with this cough, she found her breath short during the winter; very slightly so in the first instance, but the dyspnoea has been becoming more oppressive during subsequent winters.

The dyspnoea has not been always most oppressive at those times when the cough has been most severe: neither the cough nor the dyspnoea has been usually accompanied with pain in the chest. She has been getting thinner for some years, but thinks that may be accounted for from her embarrassed circumstances and anxiety of mind. She has never had much expectoration; has never spit any blood. She has occasionally, though not very frequently, had attacks of palpitation of the heart. The catamenia have always occurred regularly, up to the present time.

This winter, she was, during the early months, more free than usual from her complaints; she had a slight attack of dyspnoea in January, which was the first this winter.

The present attack commenced a week before her admission. Previously, she was in her usual health, and had undergone, without inconvenience, more than usual fatigue, and frequently been out, exposed to the weather, in the evenings.

On the day when her illness commenced, she had been out in the rain, and let her wet clothes and shoes dry on her when she returned. Within two or three hours after this, she began to feel some shortness of breath, which continued for two or three days, with much wheezing, but without any cough. Since that, the dyspnoea has much increased (up to the time of admission, when it had become very distressing), and has been accompanied with some cough and expectoration.

At the time of her admission, the face was pale, and the lips livid; she complained of great dyspnoea, and the breathing was short and frequent. Pulse 120, feeble, but with some sharpness; skin quite cool; the tongue covered with a thick moist fur, of a dirty white colour; she has a slight cough, but

with little expectoration. Since the commencement of her present illness, the dyspnoea has been constant, but is variable in its degree, as it is much more oppressive one hour than it is in the following. It is at present more distressing than it has been in any of her former attacks.

There is the loud resonance of emphysema over the whole of the chest, except under both clavicles, especially under the right, where there is some dulness. The hepatic dulness does not extend much above the margin of the ribs, but reaches more than an inch below, which is, in fact, very low down in the trunk, as the chest is long and narrow, apparently from compression of the stays. The sound of expiration is very prolonged, and much louder than natural. Loud mucous rhonchus is heard universally over the lungs, which obscures the other sounds; pectoriloquy is heard beneath the right clavicle. The sounds of the heart are very indistinct, being obscured by the loud mucous rhonchus, and the emphysematous lung.

On her admission, Mr. Quain prescribed for her as follows:—

℞ Hydrarg. Chloridi, gr. iv.; Ext. Coloc. Co. gr. viij. stat. sumend.

℞ Antim. Tart. gr. ¼.; Mist. Camph. ʒj. M. ft. haust. 4tis horis sumendus.

When I first saw her on the following day, she was still suffering under great dyspnoea and weakness, which were her chief complaints, as she said she had no pain; the face was pallid, the lips and the ends of the fingers livid. She had not much cough, and but little expectoration, which had a muco-purulent appearance. The mind was quite clear. She had slight headache. Most of the symptoms were as described yesterday.

Adde Haustus Sp. Æther. Sulph. ʒss.

Inter scapulas applicetur emp. cantharid.

Now, so far as the examination went, it clearly indicated two states of disease. The unnaturally clear stroke sound, and the loud lengthened expiration, showed the presence of emphysema. In addition to this, there was the loud mucous rhonchus, not very fine, not approaching to crepitation, but affecting every part of the chest, and every stage of the respiratory act; this was the sign of universal bronchitis. From the intermittent character of the dyspnoea, it is probable that it was aggravated by some occasional spasm. This was all evident; but it appeared probable, from the dulness under the clavicles, with pectoriloquy under the right, that there was limited tuberculous disease. Little was ascertained with regard to the heart, on account of the sounds being obscured by the loud mucous rhonchus. One gentleman, however, who examined the

patient, says that he *did* hear a murmuring ; and we shall see that so much disease existed in the valves, that there must have been a murmur.

What treatment should we adopt ? The most serious disease was the general bronchitis, but this had proceeded beyond the more inflammatory stage, to that of secretion in the tubes, and consequent obstruction to the passage of air ; hence the dyspnoea was very great, the skin was cool, and the countenance was livid. In such a case, blood-letting may not only not be salutary, but do mischief, by weakening the power of expectoration, and thus increasing the dyspnoea. Expectoration is the chief means of relief in bronchitis. The mixture was prescribed to promote this ; the æther was added at her own request, as she had experienced relief from it on former attacks. The blister was ordered as a derivant, and in some measure to arouse the powers of life.

The treatment produced some relief ; on the 25th, the report is—That the breathing is rather easier, and the lips are less blue ; but she says she has not been so much relieved by the blister and the medicine as she expected from her experience of the benefit of these remedies on former attacks of dyspnoea. Tongue thickly furred, pulse 100. She has very little pain, but is unable to get any sleep ; she is troubled with the piles, to which she has long been subject ; the bowels have been opened once this morning.

℞ Pil. Hydrarg. ; Extracti Conii. ; Pulv. Rhæi. aa gr. iv. ; pulv. Cambogiæ, gr. ij. ; M. ft. pil. ij. ; horæ somni sumendæ.

Hæmorrhoidis applicetur Unguentum gallarum.

26th.—Appears worse. She is extremely feeble ; the dyspnoea is more oppressive, so as to amount to orthopnoea, and the face is more livid. Much coarse mucous rhonchus may be heard at some distance from the patient. She has more cough, and has some pain under the sternum, and in the right chest. The sputa have a rather yellowish tinge. Pulse 110, small and feeble, intermitting one beat in about 20 pulsations ; tongue thickly furred ; no appetite ; bowels opened once ; piles much easier.

The danger of suffocation was obviously more imminent, and it became more necessary to endeavour to promote expectoration. I thought the antimony too depressing, and prescribed a more stimulant and expectorant mixture, and another blister.

Omitte Haustum.

℞ Ammoniæ Sesquicarb. gr. iij. ; Tr. Lobeliæ, m. x. ; Spi. Ætheris Sulph. ʒss. ; Aquæ ʒj. M. ft. haust. ; 4tis horis sumendus.

Lateri dext. thoracis admov. Emp. Canth.

On the 27th, she seemed rather easier. The breathing was rather less oppressed, and she was less livid than yesterday, but there were still insomnia, headache, and some delirium, from the circulation of black blood in the brain.

On the 28th she was worse ; breathing very laboured and frequent ; more lividity, and more confusion of the intellect.

On the 29th she died.

Inspectio cadaveris.—The surface of the body was pale ; the face rather livid. The body was thin, but not much emaciated.

On opening the chest, the lungs were observed to be of a pale slate colour ; they did not collapse, but appeared large and distended ; they pitted on pressure, and felt very thin and flaccid between the fingers. On removing the right lung, a considerable quantity of muco-purulent fluid escaped from the bronchi. The pulmonary texture generally was light, fragile, and capable of compression into a small compass, but the air cells were coarse, evidently in the state of flaccid emphysema.

On the surface of the apex of the right lung was a patch of hard granular irregularity, of the size of a half-crown piece, and in this a scar-like depression. Extending from two to three lines depth into the substance of the lungs, in the part corresponding with the irregularity and discolouration of the surface, was a patch of dark grey solid texture, which sunk in water when removed, and contained in some parts small opaque hard lines grating under the scalpel. No cavity, nor recent tubercular formation, was found in either lung.

The lining of the bronchial tubes of both lungs was intensely injected, and of a florid red colour. There was also much redness of the smaller ramifications, but to a less extent. The longitudinal and transverse fibres were hypertrophied. In the right lung, corresponding with the consolidated part, and with the irregularity of the surface, one of the bronchial tubes was found dilated to the size of a large crow quill, and terminating abruptly in the consolidation. The lining membrane of the dilated tube was irregularly thickened and opaque. Very little fluid was contained in the smaller ramifications of the right tubes ; from some of the smaller bronchiæ of the left lung some muco-purulent fluid oozed when the lung was compressed.

The upper part of the left lung presented some irregularity, and dark discolouration of the surface, like that on the right lung, but to a smaller extent, and with less consolidation of the texture. The tubes were much inflated, but not dilated. Some interlobular and sub-pleural emphysema was observed towards the base of this lung.

The heart appeared of natural size. On opening the left ventricle, the semilunar valves were found to be considerably diseased. There was a scutiform thickening of each valve, the thickening not reaching to the free margins, except at the corpora arantii. The margins that apply to each other were atrophied, and presented several large perforations.

The mitral valve was also extensively diseased. The two laminae were thickened, contracted, and adherent, especially the posterior one, so that the orifice would only admit one finger. The chordae tendineae were thickened and adherent, and the musculi papillares were enlarged.

The walls of the ventricle, generally, were not hypertrophied. The pulmonary semilunar valves were atrophied at the margins similarly to the aortic valves, but there was no thickening and induration of the central parts. The tricuspid valve did not appear diseased. The different cavities of the heart, and the thickness of the walls, preserved almost their natural proportions.

The heart weighed $9\frac{1}{2}$ oz.

The liver and the stomach were both observed to be unusually low down in the abdomen; the inferior margin of the liver reaching to the umbilicus, and extending two inches below the margin of the ribs. The liver was large, of a darker red than usual, but beyond this it did not appear unhealthy.

The kidneys were congested, but of a natural texture and size.

In the broad ligaments of the uterus, and under the peritoneal coat covering its surface, were some small cartilaginous tumours, varying from the size of a horse-bean downwards, so hard, as to grate under the scalpel. One or two small tumours, precisely similar, were embedded in the *substance* of the uterus.

So far as regards the emphysema and bronchitis, the examination verified the diagnosis given. The dulness and pectoriloquy under the right clavicle had led me to expect a small cavity and tuberculous consolidation. Instead of this, we found a dilated bronchus, and a small old black consolidation, probably the remains of tuberculous lesions, and quite sufficient to account for the signs which we had observed. The emphysema was of the flaccid or atrophied kind, which I have distinguished as differing from the tense emphysema described by Laennec. The *sub-pleural* emphysema was distinctly characterized by collapsing as soon as the membrane was punctured.

The flaccid emphysema was no doubt a disease of long standing; but I believe it to have been increased by the recent attack of bronchitis. Probably neither the emphy-

sema alone, nor the bronchitis alone, could have caused such an oppressed state of the breathing as that which we found in this case; but the two combined greatly aggravate each other's effects: the emphysema makes the subject suffer more severely the effects of the attack of bronchitis; and the bronchitis, by opposing an obstruction to the egress of air, makes it accumulate in, and distend, the flaccid inelastic lung; and thus the emphysema and its effects are increased. It is only in this way that we can account for the great amount of displacements produced by emphysema.

The deep red vascularity of the lining membrane of the bronchi, together with the abundant muco-purulent matter which they contain, gave evidence of the bronchitis, which was the more immediate cause of death. It did not reach to the capillary bronchi, but was general throughout all the tubes of larger size. The hypertrophy of the longitudinal and circular fibres of these tubes is such as we frequently find in those who have long or frequently suffered from dyspnoea. Their effect is to diminish the extensibility and expansibility of these tubes, and thus (as I have shown in several publications,) to increase the pressure and accumulation of air in the pulmonary texture. It is thus that various diseases which impair the expansibility of the roots and summits of the lungs become the cause of emphysema; and this cause, although wholly overlooked by authors, I have found to be the most common of any.

With this light on the pathology of this case, you will perceive how serious an affair an attack of general bronchitis becomes. The source of danger in bronchitis is the accumulation of mucus in the tubes; the protection against this is the power of expectoration; but observe how much this power is impaired by emphysema, in which the pulmonary texture loses its elasticity; and expiration, on the force and suddenness of which the act of expectoration depends, becomes long and laborious. Now in the treatment of such cases, it is only in an early stage that we can, by antiphlogistic measures only, succeed in arresting the secretion in the tubes; we are generally obliged early to use means to promote the act of expectoration, and so soon as lividity appears, and the pulse becomes weak, the expectorants must be of a stimulant character. I have often found these remedies successful even where the lividity and weakness have been great; and I believe that they would have succeeded here, but for the organic disease of the heart that was present.

This lesion was scarcely discovered during life, its signs having been masked by those of emphysema and bronchitis. But I have before remarked to you that the signs of

valvular disease of the heart often become obscure, as the power of the heart fails within a few days of death. This was exemplified, before Christmas, in the case of Maria Kyte. In the present instance we may consider the moderate size of the heart an additional reason why the signs connected with the organ were obscure, by making its motions weak, and its position more distant from the walls of the chest. I have no doubt, however, that, had the state of the patient permitted it, a careful examination of the region of the heart would have enabled us to detect the disease of the mitral valve. The mode to be adopted would have been to place the patient in a sitting posture, leaning forward and to the left, which brings the heart nearer the walls of the chest, then to desire her to hold her breath for an instant, to stop the noisy rhonchi, in the interval of which the heart sounds would have been heard.

ON

ARTIFICIAL CLIMATES,

FOR THE RESTORATION AND PRESERVATION
OF HEALTH: TO BE CONSIDERED UNDER
TWO HEADS.

I. *The atmospheric treatment of the lungs.*

II. *The atmospheric treatment of the lungs and skin.*

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(*For the Medical Gazette.*)

Introductory remarks.—As under the term natural climate are comprehended all varieties in our terrestrial atmosphere, arising out of geographical and geological position, and other causes, so, under the term artificial, should be placed every modification of the air arising out of human efforts. Thus the material changes effected by the clearing of woods, and the draining and ploughing up of soils, are, strictly speaking, comprehended under this term. It is in a more restricted sense, however, that I have purposed to employ it, yet wide enough to encircle a field of inquiry and labour neither small in extent nor easy of cultivation. It is obvious that climate, whether natural or artificial, can only act upon the animal frame through the medium of its surfaces, namely, the skin covering the body, and the membrane lining the air passages of the lungs. Since this membrane, though spread over a

great extent of tubular and vesicular surface, falls in with the skin only round the margin of two surfaces, the mouth and the nostrils, which are of moderate extent, we have the opportunity of placing the lungs and the skin under the influence of different climates. This arrangement, though it has commanded little attention, appears to be of very great importance in the relief of many delicate or diseased conditions of the system; but as it is confined to these, its sphere for action, though large, is small when compared with the natural arrangement in which the *same* atmosphere acts on both the skin and the lungs. When the whole body is immersed in one artificial climate, we have of course the same aerial fluid acting upon both surfaces at once. This condition obtains, beneficially or otherwise, in every dwelling of the human race, and under the subjects of ventilation and warmth has had a large amount of time and talent devoted to it.

When we compare with this to the medical study of the different natural climates of our globe, we might be surprised at the more steady and certain progress which the latter has made than the former, did we not consider how incomparably more difficult the one is than the other. For the medical study of climates in general we need not be prepared to undertake any profound inquiry into the physical principles concerned in their production; and if we do speculate upon them, it is of little moment should our views be erroneous, for we have no concern in the formation of natural climates. All we need attend to for medical purposes is to observe facts, and to collect and compare the observations of others. In the field of medical statistics we may find a valuable harvest of such facts, yielded by the collective industry of many able observers. Hence the subject of climate has made progress under the hands of all who have pursued it with a due measure of judgment and assiduity, especially of late, through the talent it has engaged.

On the other hand, when we enter upon the field of artificial climate, we find ourselves in one beset with difficulties. Instead of having no concern in the formation of the climate, we have every concern with it, if our purpose is to do more than to deal in

common-place generalities. This branch of our subject has engaged the time and talents not only of ingenious, though uninformed projectors, but also of men of learning both in and out of the profession. While much has undoubtedly been done, we are compelled to admit that there has been at the same time not a little loss of labour.

Occult in its principles, our subject has its obscurity greatly increased by the fluid concerned being invisible. To difficulties from these sources are added many arising out of personal appearance and taste in one branch of the subject, or out of domestic arrangements or taste in another. Economy also, unavoidable in some cases, and misplaced in others, interferes widely with the progress of improvement. With all these obstacles in the way we need hardly wonder that it has not been more rapid, or that the opinions of men of unquestionable ability differ much.

It has appeared to me correct, in a medical point of view, to divide the subject of artificial climate, placing it, as proposed, under two heads:—1st, The atmospheric treatment of the lungs—a field hitherto little explored; and, 2dly, by the atmospheric treatment of the lungs and skin—a term I conceive to be in many respects preferable to the common phrase ventilating and warming, inasmuch as the latter does not keep before our view those functions of the human body, to the right performance of which our attention should be mainly directed; whereas, by employing the former term, we can never lose sight of the lungs and skin, the healthful play of which requires that all their functions should be consulted in our operations. Under this second head will be considered, in addition to ventilation and warmth in their common acceptation, the question of purifying air by the correction of smoke and other ways, which I hope to render of interest to general as well as medical readers, by a detail of many experiments establishing points of practical utility in the arts.

In undertaking to write upon the subject contained under these two heads, I would premise that it is not my purpose to occupy the reader with a compilation or treatise, but to submit to his consideration certain facts and arguments, suggesting views in theory,

and practical plans, which I hope to render interesting by introducing no more of ordinary matter than is necessary for preserving a systematic connection between them, or for rendering the exposition of them complete.

In proposing to place before my readers a series of papers, which, from their nature, require the favour of an attentive perusal, I feel the propriety of bearing in mind the natural effects of a secluded life, and of offering to the many to whom I am little known a brief account of the pursuits of past years, as an earnest of some preparation for the work upon which I am venturing to occupy their time.

Medicine comprises not only an extensive field of science inseparable from its proper study, but it touches upon every one within the whole circle of the physical sciences. Though no mind, in the time allowably unoccupied in the cultivation of the immediate branches of the profession, could possibly acquire more than a general acquaintance with the greater number of those sciences, every person may find the time, and would do well to select, as an essential ornament to professional studies, one at the least, if not more of them, suited to his taste and talents. With this impression I yielded to a fondness for mechanics and chemical physics, and joined a pursuit of them to the early study of the profession.

In the year 1822, with the view of commanding more leisure for such pursuits than the labours of early practice in England might afford, and as leading to a new and inviting path for experimental research, I obtained a medical appointment to India.

Prior to my departure I was led, at the request of my father, who, though in the church, was a highly-qualified judge, to print an essay upon a question belonging to the muscular mechanics of the human body, which had been written only for a small medical society. The few copies which were circulated met with a favourable reception from men of the first eminence at the time, and with a kind recommendation from some of them that I should remain in the prosecution of my pursuits in Europe.

I had also become occupied with an essay upon the laws governing the two powers, attraction and repulsion, as they operate in the aggregation of

atoms. Loose and unsatisfactory language and arguments, at the time not uncommon in works on chemistry, led me to venture on the attempt. Though arrested in it by my departure to India, it caused my becoming much occupied in experimental inquiries into the nature and sources of heat, and the laws governing its action and movements: heat being the great agent in repulsion.

The powerful effect upon the human system of a tropical atmosphere, in its various states, might well command the attention of the young practitioner entering upon his labours in India. I felt urged by it to connect physical with physiological inquiries, and bearing in mind, that climate can act upon the body only through its surfaces, namely, that of the skin and of the lungs, to study the effect of hygrometric and thermometric conditions of the air upon their functions. Its barometric influence in the next place was too obvious to escape notice. With the desire of observing it upon an extended scale, I visited the Himalaya mountains in 1824 for some months. The observations were necessarily very interesting, and were not without practical utility, since the Inspector General of Her Majesty's Hospitals informed me, that the perusal of a small work embodying some of them had led him to recommend to the Government the formation of sanative stations, at an elevation which should command not only a lower temperature, but also a considerably reduced barometric pressure. These stations, which have proved restorative to many, were consequently formed at an earlier period of our command over the mountainous districts than if the question had remained to be settled by the experience, and often conflicting evidence, of individual invalids.

By a train of thought thus induced my attention was drawn more particularly to the condition of the pulmonary surfaces under the action of the air in disease as well as in health, and to views pointing to measures which will be described in the practical parts of the following observations.

The researches which had thus commenced in so interesting a field, it was my purpose to have pursued with attention, but the destruction of valuable philosophical instruments through the carelessness of agents, forming the greater part of my stock, which could not be replaced in that country, and

my nomination at the same time, by the favour of the Government, to the responsible and arduous duties of the staffsurgeoncy of Cawnpore, the largest military station in India, compelled me to lay them aside for a time. I was, however, able to render such pursuits of some practical utility, by maintaining around the human body an atmosphere artificially tempered from the extremes of heat and dryness in a more certain way than that in common use, which, depending on the wind, partook of its uncertainty. This was effected by a machine combining the action of a pendulum and pump, which produced a free ventilation, and at the same time cooled the air of a large house, at times when the ordinary means for tempering the heat of that climate were ineffectual. At so extensive a station as Cawnpore, numerous opportunities were afforded for observing the prevalent tendency to affections of the head in European children in India; a tendency which I cannot doubt had a connection with a *local abstraction* of heat. It thus became one of many facts, giving the functions of the lungs and skin, as they are concerned in the production and diffusion of animal heat, an interest and importance of a peculiar kind, which I shall have occasion to notice in the sequel. My attention to these functions was also kept up by daily exposure to an atmosphere in the hot season at a temperature much above that of the blood, often at 115°, and sometimes at 120° Fahrenheit. Respiration performed in such an atmosphere has some points connected with its operation too curious to escape inquiries taking such a direction. Inability to endure many such seasons, and a desire for some time to devote to my favourite pursuits, led me to seek an exchange to an appointment of less arduous duty.

The destruction of the philosophical, by confining me to the use of my chemical apparatus, of which I had a good supply, changed the course of my pursuits, and it became my endeavour to apply the science of Europe to the rude arts of the country, with a view to the improvement of the more important of them. This led to experiments on an extensive scale, many of which embraced the construction of furnaces, the consumption of smoke, and the action of heat on minerals. The results were often very interesting and instruc-

tive*. My attention was subsequently drawn to the defective state of the Indian machines employed in agriculture, especially as they are concerned in aggravating the severe famines which threatened, and have since afflicted that country.

Though a highly interesting and important subject, it is foreign to those before us, and for a time diverted my attention from them. Shortly after my return to England in 1835, I commenced reducing to trial a plan, to which I had been directed by the experiments in India on the draught of furnaces, embodying a principle in pneumatics which promised to realize effectually in dwelling houses, views I had long entertained upon ventilation and warmth.

Other objects, however, arose, appearing to claim immediate attention, in which the lungs were more especially concerned. The peculiar nature of the distress in the respiration of persons suffering under acute diseases of the chest, seemed to confirm a growing impression on my mind that much might be effected by the production of artificial atmospheres of a determined hygrometric and thermometric condition for the relief of these severe diseases. Shortly afterwards, reflecting upon the received opinions, certain principles in physics presented themselves to view, as promising agents for the production, so far as *chronic* affections and delicate states of the lungs were concerned, of the artificial atmosphere I was seeking. This led to the realization of it in the Respirator, the construction and action

of which will be considered in their proper place, under chronic affections. Having enumerated such employments of a retired life, as led to this and other efforts to render pursuits in natural science of use in medicine, I desire to repeat, that it appeared a preliminary measure due to my readers, whose attention I was inviting to the matter of the following papers; while it may serve to explain the ready success which has attended that effort, with which my name is associated in the mind of the invalid public.

I proceed now to take up the first division of artificial climates, viz.—

The atmospheric treatment of the lungs.—The mechanism and functions of the lungs, though a subject of long and able research, have still many essential points inviting inquiry, a right decision upon which could not, I think, fail to modify many of our opinions concerning the function of respiration. Although the entertaining of peculiar views upon healthy and morbid respiration was immediately connected with my practical efforts, and though, according to a systematic arrangement, they ought to be introduced in this place, I feel unwilling to occupy my readers' attention with them now, from a desire that the *practical* remarks of my first subject should not by any means appear involved in *theoretical* speculations. I beg, therefore, to invite attention at once to the first branch of this division, viz. to the atmospheric treatment of *acute* diseases of the lungs.

Acute diseases of the lungs have, throughout the above inquiries, appeared to me to call, if possible, more urgently than chronic for a suitable atmospheric treatment, though happily their amount of need numerically considered is much less.

The calamitous severity and frequent relapses of acute diseases of the chest, render it justifiable, and even a duty, on the part of every member of the profession to step forward with whatever of argument or suggestion he is able, which holds out any, the slightest hope, of alleviating the sufferings of our nature under these severe and prevailing diseases.

With similar feelings, though I have not met with the following line of argument elsewhere, I am in no way anxious about the originality of the

* Though the success which attended certain of these inquiries held out a pressing invitation of a secular kind, to which, at the suggestion of friends, I yielded, this rather aided than interfered with a certain class of experiments. By one performed on a very large scale, the ready solubility of silica, and apparently of some other earths, in steam at a white heat, seemed thoroughly established. The particulars of this experiment were communicated to the British Association, at the meeting of 1840 at Glasgow, and led to a grant for conducting others in England, which I shall hope to undertake, when leisure shall be afforded, in conjunction with the gentleman associated with me in the grant. I may also mention an experiment published in the Philosophical Magazine for January, 1840, upon the passage under great pressure, of liquids and gases through the pores of ware of various degrees of density, by which a result was arrived at of a very extraordinary kind. Experiments on the formation of ice in the tropics, in metal and earthen vessels, with the view of measuring the power of radiation in the process of congelation, gave likewise interesting results.

views it embraces, but would be happy to find them those of some prior and abler advocate, whose remarks, in the multitudinous writings of the day, I had not the good fortune to fall in with. Supposing this were the case, I cannot but think the importance of the subject would justify its being recurred to again, until such attention were attracted to it as would lead to some definite practical results. The fact, that no measures embracing the treatment about to be described are now in operation, establishes some of two points, either that they have already occupied attention, and have been tried, and proved, for some reason, inadmissible, or that, in the wide range of medical questions inviting attention, they have escaped notice. As I am not aware of any writings where they can be said even to be touched upon, nor of any instance where they have been carried into effect, and as the impression of their importance increases with the reflections and observations of every successive year, I think it right not longer to delay submitting the views upon which they are founded, with great deference, to the consideration of the profession in this and other climates, where acute pulmonary disease prevails. I now also feel less hesitation, from the hope that, to a portion of the profession, my name may be so far familiar in connexion with affections of the respiratory passages, as to insure their favourable attention to the observations I have to make upon a certain point of practice in the treatment of acute diseases of the lungs.

In the case of outward affections, the eye can see them, and the hand feel them, and make a direct application to them of remedies; and can watch the effect of these. Hence much of efficient local treatment was, in their case, taught by common experience, long before it was confirmed on principle by the advancing science of surgery. But in the case of inward disease the parts are hidden from the cognizance of the most instructive of our senses. In their case, therefore, any practice founded on experience alone is too likely to be ill and feebly employed. This appears to have been the case with respect to the particular treatment to be discussed; for that small portion of it which experience has

as yet forced us to adopt, does scarcely amount to a semblance of what, it appears to me, must be adjudged necessary if we bring the question before the tribunal of a sound pathology.

I proceed therefore to the endeavour, upon pathological analogy, to establish the importance of giving efficient action, in the treatment of acute pulmonary disease, to measures which prove to be indispensably necessary for a successful treatment of all parallel cases. The skin of the lungs being excluded from our sight is an instance where, being deprived of this, the most discerning of our senses in judging of its state, our treatment may have been wanting in steadiness and precision. Upon the skin of the surface, however, we can look, and from its conditions when inflamed, from that of the eye especially, can infer, by what appears to me a most just pathological analogy, making due allowance for difference of structure, what must be the condition of the mucous membrane of the lungs when inflamed itself, or when irritated by contiguous inflammation of the pulmonary mass or of the pleura. When the external cutaneous membrane is irritated, in addition to tumescence and redness, we observe a remarkable dryness of the surface, indicating a diminution of action in the exhalents. This dryness of the surface is so highly irritating, that, excepting in trifling cases, we do not hope any measures will effect a resolution, in which *unremitted* local treatment to relieve it is neglected. Hence in inflammations affecting the skin, *uninterrupted* protection from the air is as necessary a part of the treatment as any other in the antiphlogistic series. Here it is of importance to remark, that treatment affecting the *temperature*, and that affecting the *moisture* of the part being often combined in our means, would appear to be too liable to be involved together in our minds; whereas it is most desirable that they should be kept distinct. Thus, in the application of lotions and fomentations, we have humidity with cold in the one case, and with warmth in the other. In both cases we have humidity; but its paramount influence is liable to be obscured by that which produces the more immediate sensation in the part, the cold or heat of the application. Important in the treat-

ment of inflammation as is cold in some cases, or warmth in others, their importance is much exceeded by that of the humidity. If, in place of a cold *lotion*, a current of cold but *dry air* were directed against an inflamed part, instead of affording any relief, it would, in most cases, prove irritating; and still more irritating would be a blast of *hot dry air*, substituted for a *fomentation* of the same temperature. Yet, in the one case, cold, or an abstraction of heat, and, in the other, warmth, or a retention of heat, would be as fairly applied, if not to the same extent, as if the fluid medium were liquid instead of gaseous. In short, experience tells us that no modification of the temperature of an inflamed part will be availing unless its humidity is artificially preserved; and this preservation of the humidity must be *uninterrupted*. Hence, in cases where liquid applications are not incessantly employed, the humidity of the part must still be preserved by detaining on its surface the perspired fluid. Ointments, plantain-leaves, plasters, and other substances impermeable by air or moisture, act, of course, chiefly in this manner. They may be made a *menstruum* for medicinal applications; but where the skin is sound, these can have, in comparison with the preservation of the humidity, but little effect. If this be neglected, no treatment, how active and judicious soever in other respects, will save a part from destruction where the inflammation runs high. These are facts with which experience has rendered us so familiar, that to dwell on them may appear as needless as to labour in the establishment of a self-evident proposition. The sequel, however, will, I think, shew, that this is by no means the case; but that these practical truths must not be carelessly appealed to by the writer, and in like manner assented to by the reader; they must not merely receive admission into, and then pass out of, our minds; but they ought, for the purpose in view, to hold a foremost position in them for a time.

As we proceed from a surface which, in health, is comparatively dry, that is, in which the exhalents and their accompanying nervous points are at ease when in a healthy state, without having a watery medium interposed between them and the air, and do there-

fore, in their ordinary condition, supply no more of the perspired fluid than can be removed by the air at the moment of its deposition; as we turn our attention from the skin, for instance, to a membrane, the extreme vessels and nervous points of which are so delicate as, like some aquatic plants, to need a fluid to support them; and for this end have their secretions so copious as constantly to flow over them in a liquid stratum, of which description the tunica conjunctiva of the eye is a remarkable instance, doubly provided as it is with secerning resources; as we direct our attention to this membrane, we find the foregoing truths strongly set forth in inflammatory affections of it, or of the organ it invests. In ophthalmitis, in most of its acuter forms, although evaporation from the surface of the eye itself must be nearly arrested by the firm closure of the eyelids, the drying of their outer skin even, and of the neighbouring parts, is insufferable, and calls for an abundance of liquid applications; and when these are desisted from, of unctuous. They are indeed, next to depletion, one of the most necessary parts of the treatment. As to the former case, it is not the warmth or cold, liquid applications are commonly the *menstruum* of conveying, which can be considered as the chief source of comfort; for oftentimes both of them may be employed on the same day in certain states of the eye. Though to produce an impression by heat, or by cold, is indeed evidently beneficial, it is the *moisture* conveying the impression which is of chief value; for cold or warmth could afford no compensation for its absence. This fact would be rendered manifest if a current of cold and dry, or hot and dry air, were conveyed over the eye. It would be distressing if externally applied, and destructive if directed into the eye.

If, instead of fomenting, anointing, and covering up, an inflamed part should be left to the action of the air, though there should be no abrasion of the surface, the injurious consequences which might be expected are familiar to every one. The redness, turgescence, and pain, would return, all indicative of a renewed determination of blood towards it, which would be less easy to remove in proportion as the irritability of the local vessels be-

came aggravated by their debility. If the exposure to this exsiccating influence were persisted in, we know that in some cases a destruction of the part, if not of the life of the sufferer, might be the consequence. In fine, the physiologist discerns the functional characteristic of membranes exposed to the action of the air, to be a power of exhaling with greater activity than they absorb; and he perceives in it a wise provision for maintaining their soft condition under its drying action; and for making *it* the vehicle for carrying off excrementitious matters from the blood, and with them a portion of the redundant animal heat; and such an excess of exhalation over absorption he sees to be indispensable for their healthy condition. But to the observant pathologist it must surely be plain that when such membranes are inflamed the state of things is reversed.

Exhalation is now a laborious, irritating, and ill-performed duty; while aqueous absorption is very soothing to the part. The tendency of such membranes when inflamed to suffer by exsiccation on the one hand, and the very soothing effect of moist applications on the other, can be explained, I think, in no other way. To give rest, therefore, to the exhalents of an inflamed membrane, and to favour action in the absorbents, are to be considered important indications in the treatment. If this be true of the coarser external membrane of the body, guarded as it is so considerably by the epidermis or scarf-skin, it must, *a fortiori*, be truer of the finer pulmonary membrane, of the absorbing power of which there can be no question.

We may, I conceive, affirm thus much without advancing upon hypothetical or debated ground. Though it would be interesting and instructive to the mind, we need not here involve ourselves in the question of the capillary circulation, and the manner in which it is affected by moisture applied to the surface of a membrane. We have facts enough, familiar to every one, upon which to rest, without undertaking the explanation of them. And as we are transferring our argument from the cutaneous to the pulmonary membrane, we may defer the question of *cutaneous* absorption, and rely upon the assurance that no physiologist will deny to the *pulmonary*

membrane an abundant power of absorption; and if he should, we may fall back upon our *facts* (leaving to him the onus of their explanation) and rest upon them the strong argument of analogy. Moreover, we find the force of this argument to augment as we pursue it.

Thus, if the exposure of an inflamed skin, or conjunctiva, to a quiescent atmosphere, is so irritating, what must be the effect upon the mucous membrane lining the air-tubes, of a current of air sweeping backwards and forwards over its surface during the necessary process of respiration.

Furthermore: to a mind well informed in physiological researches, the various facts must here present themselves, which have established a close approximation of the skin to mucous membranes in its structure and functions. This consideration will give to the argument from the skin the force of that drawn from the mucous lining of the eye, and it renders the analogy in the case of the pulmonary membrane too close to be resisted.

We are thus led on, by the strictest inferences, to view this membrane in the acute stage of bronchitis, pneumonia, &c. as injected and arid; and by the sound of the sufferer's respiration and the dryness of his cough, our ears are informed that the analogy is too correct, and that the parts are suffering from exsiccation in the same manner as an inflamed skin or eye exposed to the air, but in a degree as much more distressing as the pulmonary membrane is more delicate, and the change of air over it more frequent. If we pursue the inquiry still further into the acute stages of the above, and other affections of the lungs, we shall find that their various symptoms, however distinct and peculiar, have one character in common, that of suggesting to our perception, when once directed to the subject, that the pulmonary membrane is suffering distress from the drying action of the air, superadded to that of the specific inflammation present. We shall, I think, find this so strictly true, in almost every instance, that the obstinate character of some of those diseases, and the frequent relapses, might cease to surprise us, however otherwise judicious might be the treatment, so long as the lungs were not guarded *thoroughly* and *unin-*

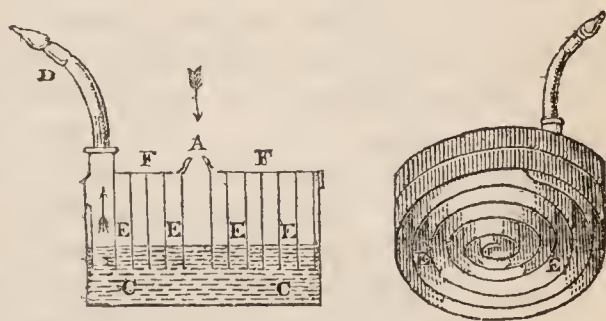
interruptedly against the process of exsiccation. Without such a thorough and uninterrupted provision, we might rather wonder that resolution should ever take place in acute affections of the chest. With the urgency of the case thus before us, we cannot fail to desire that the pulmonary surfaces, whether acutely inflamed alone, or involved in inflammation with other parts, should be as thoroughly and continually guarded against exsiccation, and as well supplied with moisture to satisfy the avidity of their absorbents, as if the membrane were an exterior one, which could be laid under a poultice or bathed with fomentations. This view leads us to inquire, first, whether the measure in question, in a really efficient form, is at present in use; and, secondly, if not in use, whether the means for giving it such effectual operation are within our reach. With respect to the former inquiry, the instrument called the inhaler cannot have failed to present itself to the mind of the reader who has favoured these observations with attention, and to have been pronounced by him, I should think, altogether unequal to the duty before us, however well fitted some forms of it may be for the comparatively trifling purposes for which it is employed. Upon his turning from the inhaler to any other method lately recommended for making a local application of remedies to the lungs, in which the vapour of water plays a part, it appears to me he must come to the same conclusion with respect to them, namely, that, although well adapted for the purposes for which they have been introduced by their able employers, they do not include in their mode of action any such an object as that before us.

Before passing on, however, to our second inquiry after some method for giving thorough efficiency to the humid treatment, it will be proper to remove all doubts of the inefficiency of any measures at present in use. We may, therefore, in the first instance, examine the different forms of the inhaler. These will be found to act in three ways; in one kind air is heated and rendered humid, by the air itself being made to rise up through the body of the water. Dr. Mudge's inhaler, when acting according to its

principles, is of this kind. Also one I have understood to be Dr. Ramadge's. The drawing of the air through the body of the water has always appeared to me objectionable. The temperature of the air is liable to be too hot at first, since, by penetrating the water, it rises to the full heat of it; and by taking too much heat at first, it cools the water rapidly. Also I cannot think it desirable to subject weak lungs to the labour of inhaling against the pressure of a column of several inches of water. In another form of the inhaler, a tube of metal winds, like the worm of a still, through hot water. In this instrument the air is heated, but not moistened, and is thereby brought to an arid state, ill suited, I should think, for almost any conditions of the lungs.

In the third kind of inhaler the air is carried over the surface of the liquid, which I have always considered the preferable plan. Dr. Mudge's inhaler, as commonly made, acts in this manner; but, as the course the air takes is equal only to the radius of the circular vessel, it becomes necessary to make the aperture very small, that no more air shall enter than can be rendered warm and moist during the short transit.

To obviate this defect, I constructed for an invalid friend six years ago an inhaler of a very simple kind, which appears to me to give the instrument whatever of efficiency it admits of. A long band of thin sheet tin or other metal (*e. e.* and *c.* fig 1.) is coiled into



a volute. Of this one edge is soldered against the lid (*ff'*) of a saucepan-formed vessel. When the lid is put on, the other edge dips below the surface of the water (*cc*) in the vessel. Thus a capacious spiral passage is formed over the water by the coil. A free opening (*a*) is made through the lid at the central, and another at the peripheral end of the coil. Through

a tube (*d*) attached to the latter aperture, air is drawn with the greatest ease, and is moistened, and warmed, as steadily as I think can be effected by an inhaler. Such of my invalid acquaintances as have tried it, have all found it to possess the advantages expected. I have not thought it worth while to trouble the profession before with an account of it; but as the subject is before us, I may recommend the construction to the attention of physicians in the habit of employing the inhaler, as that which, on principle, should command a steadier effect than any other I know of. Dr. Harwood, of Hastings, in a work on inhalations, containing many judicious observations, has described a form of the inhaler, in which, as in my own, the air is warmed and moistened by the vapour arising from the water. But without the spiral arrangement, or some similar provision, an inhaler cannot, I think, act to the best advantage. However, for the purpose before us, I would place no reliance on any inhaler. In such an instrument, it is not possible the temperature or moisture should be under any adequate control. It is only necessary to contrast the small differences of temperature between the cold, the tepid, the warm, and the hot-bath, with the remarkable differences in their effects, and to reflect how disappointing would be their action, if they were employed promiscuously, to perceive at once the uncertain action of any such apparatus as the common inhaler, however we may improve upon it. Moreover, it requires the co-operation of the patient. It cannot be employed uninterruptedly, even when he is awake, and has to be laid aside during sleep. For our present purpose, this alone renders it almost worse than useless. Having admitted the analogy between the mucous lining of the eye, and of the lungs when inflamed, what should we say to carefully fomenting an inflamed eye at one hour, and then forcibly exposing the conjunctiva to the drying action of the air at the next? Yet such is the course we adopt, if we place any reliance on the use of an inhaler, in the acute stages of pulmonary inflammations. In a paper entitled "Observations on the exhibition of remedies in the form of vapour in pulmonary diseases, with the

description of a diffuser for the administration of iodine, chlorine," &c.*, Doctor Corrigan, of Dublin, justly comments on the defects of the inhaler, even for such purposes, while he describes a neat, simple, and more efficient apparatus for the diffusion of medicated vapours in the air of a patient's apartment, consisting of a basin of water suspended over a spirit lamp, with a flask inverted above the basin, into which a determined number of drops of the iodinous or other solution fall from the flask, and are carried off in the vapour rising from the water, and diffused in the apartment. Allied in its object to this arrangement is the measure proposed by Doctor Williams, that of causing medicinal substances to be suspended in the air of a chamber, through the solvent agency of the vapour of water, into which chamber the patient is to enter at stated periods, remaining there a prescribed time. Well suited as are either of these plans for the purposes contemplated by their able employers, it is obvious they are not calculated to embrace the treatment before our view. Moreover they involve the *skin* in the same atmospheric treatment with the *lungs*. A temporary and imperfect action, it is true, but then it is proportionally inadequate for such a treatment of the lungs as we are seeking. Indeed the affections for which medicated vapours may, with good service, be employed, are of a more chronic kind than those of which I am now treating. In the case of *these* it would almost be desirable to keep medicinal applications to the lungs altogether out of view, lest they should occupy our attention to the exclusion of an agent of incomparably greater importance in acute disease—an *atmosphere brought to a determined and unvarying hygrometric and thermometric condition, and exercising its influence unremittingly on the pulmonary membrane*.

[To be continued.]

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ON
INJURIES OF THE SPINE.

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(Continued from page 595.)

HAVING treated on concussion of the spine, I have now to speak of much more serious injuries—fracture and dislocation. Fracture of the vertebræ is not an uncommon accident; but a proper dislocation of them, one from another, is very rare: indeed, so much so, that it has been considered by some very eminent surgeons as impossible to happen. Cases related by Mr. Lawrence, in the Royal Med. Chir. Trans., and two cases which occurred at St. Bartholomew's during the time I was house-surgeon there, and which are preserved in the museum of that hospital, place the fact beyond a doubt.

Fractures of the spine may occur at any part of the column, from the atlas to the sacrum, and are frequently very complicated. Sometimes the vertebræ may be fractured without any displacement of bone; sometimes they may be fractured, with depression; and sometimes there is fracture, with dislocation of the bodies from one another: in fact, there is hardly any complication of injury that may not happen at the same time in them. This may be seen by taking a cursory view, in our museums, of the preparations from those who have died from such injuries. In some we see dislocation of the cervical vertebræ, with fracture of one or both articulating surfaces; in others, a greater or less number of the arches broken, with or without compression. In some, again, the bodies of the vertebræ are the seat of the fracture, combined or not combined with other injuries; and in others, also, one or more of the spinous processes are the only parts that suffer. Many other varieties could be adduced, but it is useless to relate them; for wherever force is applied, in different degrees and by different methods, upon any frangible body, so will that frangible body suffer varieties of fracture.

In general it is not very easy, in simple fractures of the spine, to discover, during life, where the solution of continuity has taken place, or even to de-

cide whether the accident is concussion alone, or a more complicated injury; as, from there being no displacement of bone, the fractured parts remain in their natural situation. This may be observed, when only one side of the arch or bodies are severed without displacement, and when either of the transverse processes are broken, or the articulating surfaces fractured, without dislocation. When, however, any of the spinous processes are broken, it can easily be detected, as their points in the back are not regular, and sometimes there is depression with crepitus. If, also, a ring of a vertebra be completely severed on both sides, with depression at the same time, this would cause an irregularity in the spinous processes of the back. Fracture, with dislocation of the bone, would also be very perceptible.

When there is only simple fracture of the spine without displacement, then the injury to the chorda spinalis amounts to little more than concussion; but if the fractured portions are beaten inwards, then a blood-vessel may be ruptured, the membranes torn, the chorda spinalis compressed or contused, and sometimes a piece of bone may be driven into its substance, and remain there. If, also, there is fracture with dislocation, the ligaments and intervertebral substance, binding the vertebræ together, are torn asunder, one or both the articulating surfaces broken, and the vertebræ above are pressed forwards, leaving the lower ones protruding. The mischief done in this case may be compression or contusion; but, most generally, the chorda spinalis is lacerated as well as its membranes.

The extent of injury done to the chord and its membranes must depend upon the kind of fracture, or the manner in which the foreign body is depressed. Should the ring of one bone be only beat inwards, the sharp point of the fractured extremity may cause a prick merely, which may extend nearly through the dura mater, or through the whole of the membranes into the chorda spinalis itself. It generally happens, however, that the wound is much more extensive, and that all the membranes are torn, as well as the chorda spinalis lacerated.

It has been observed by M. Ollivier, in his excellent work on the Injuries of the Spinal Marrow, that wounds of the

dura mater are attended by most serious consequences, on account of their giving rise to inflammation of all the membranes. He has also remarked that, if there be a lesion of the pia mater, hernia of the medulla is produced; that is to say, the medullary substance opposite protrudes through it, and forms a button-like excrescence, flattened on the top, projecting on each side, and resembling a mushroom. This excrescence, for the first few days, is of a reddish colour, caused by the capillaries of the nervous mass being injected with blood. The vessels of the pia mater, round about, are also very much distended; and sometimes there is found below this nervous mushroom a small clot of coagulated blood from a ruptured vein. He also remarks, that if an animal, who has received such a wound, be killed a long time afterwards, it is found to be cicatrized, and adhering to the nervous protrusion, which is diminished in size, and hardened. When this occurs, it generally happens that the lost power of motion and sensibility has been entirely recovered.

I need hardly say, that fractures of the spine are attended by the same symptoms as those of concussion, excepting that they are usually much more severe, and remain so until death. The prognosis is still more unfavourable than in concussion; as it usually happens that some irreparable mischief is done to the medulla or its membranes. There is no reason, however, why, in some cases of simple fracture, the patients should not ultimately recover; as, when there is no displacement of bone, the injury amounts to little more than concussion.

And now I shall briefly relate some cases of fracture of the spine, beginning with that of the spinous process.

CASE.—I remember the first case I saw of fracture of the spine, which is now some years ago, was in a man who was working in an excavated stone pit. The roof gave way, and fell upon his back. He was dragged from under the stones and mould by his fellow workmen, and was in a state of complete paraplegia, having all the concomitant symptoms, paralysis of the bladder, rectum, &c. He had fractured the spinous process of the first lumbar vertebra. He was bled, cupped, purged,

and had counter-irritants employed. In six months he began to have some sensation, by pricking and shooting pains in his limbs. From this time he gradually recovered, and got some power of voluntary motion. In twelve months he could walk with sticks, and at length got well. From the completeness of the paraplegia, I have often thought in this case that there was more injury than in fracture of the spinous process. However, I will mention another case where there were no symptoms whatever of a concussion of the spine, and yet the spinous process was broken. A man was admitted into St. Bartholomew's Hospital for an injury of the back, but he had no symptoms whatever of concussion of the spine. There was, however, an irregularity of the lower spinous processes of the dorsal vertebræ, and it was found that the tenth was flattened and depressed. The part was cupped and fomented, and aperients administered. In a month he was quite well. Such a case as this proves that a spinous process may be fractured without the chorda spinalis being injured.

I could relate several cases of fracture of the spine which I have seen, but I shall content myself with mentioning only a few, and that in the most brief manner.

CASE.—John Ryder, ætat. 40, fell from the roof of a house about 20 feet high, and was found lying upon his back quite insensible. He was bled, and his senses returned. He complained of great pain between the shoulders, which was increased on moving them. Pain also was felt at the back of the head, which had been struck in the fall. His pulse was very weak; respiration very slow, and performed by the diaphragm. There was priapism, with total loss of sensation and motion in the lower extremities; the insensibility extending as high as the clavicles. He could slightly move the arms, but he had no power of the forearms and hands, the sensibility of which was considerably impaired, and more particularly on the left side. The legs and arms were much below the natural temperature, and pressure on the lower and back part of the neck caused pain, but no irregularity could be discovered. He was carefully placed on his back, and ordered to be kept quiet.

Although reaction returned, he had the most severe symptoms of concussion of the spine, total paraplegia, the rectum and bladder both paralysed, as well as the lower limbs. He was purged with large doses of calomel and jalap, and the urine was drawn off by a catheter. He gradually got weaker and weaker; his pulse gradually sunk, and he died in three days. The fact is, that he had met with so severe an injury, that little treatment could be adopted. This case occurred in an hospital.

Post-mortem.—On dissection of the body the sixth cervical vertebra was found pushed forwards over that of the seventh. The left articular process of the fifth cervical vertebra was fractured, together with the transverse and articular processes of the sixth, with a portion of the arch of the last vertebra. Neither the chorda spinalis nor the membranes were lacerated, but the former was somewhat softened, and blood was effused into its substance opposite the injury.

I could relate another case of the same description, but the symptoms and treatment were so similar that it would only be a repetition of the same facts.

This man died in nine days, and had fractured the arch of the sixth cervical vertebra, but there was no depression; consequently the severe concussion was the principal cause of death.

As far as my observation has gone, an injury of the spine high up in the cervical and upper dorsal vertebra is almost certain death. I have seen many cases, but hardly know of a recovery. In the centre of the back patients often get well, and even in fracture they do not always die, as will be seen by the following cases.

It is certain from these that reparation of the vertebræ will take place. As Sir Astley Cooper has given a history of them in his work on Dislocations, I shall take the liberty of quoting it. The history of the first of these cases, which occurred in the practice of Mr. Harrold, is as follows—

CASE.—“W. Man, 28 years of age, was knocked down by a quantity of chalk falling upon him, by which his spine was broken at the lower part of the dorsal, or beginning of the lumbar vertebræ.

“The principle upon which Mr. Harrold proceeded was to produce union of the bones, by preserving the spine at perfect rest; and to effect this object the patient was placed in a fracture bed, which permitted him to evacuate his bowels without disturbance. The urine was drawn off daily by a catheter for several weeks, after which time he was enabled to retain from a pint to a pint and a half, and to discharge it when he pleased. A wound was produced on the sacrum, from the constant pressure of the body upon the bed; and although he was insensible of it, it gradually healed.

“At the end of six months his state was as follows. His back was straight, flexible, and apparently as strong as ever: he retained and passed his urine; but probably he discharged more by the action of the abdominal muscles than by any contractions of the bladder. He had a stool once in three or four days. His health and spirits were good, but he had neither sensation or motion in the lower extremities, or volition. He dressed himself entirely; he let himself down stairs step by step. He died in twelve months, wanting nine days, from the accident, from a sore on the tuberosity of the ischium. On the body being examined, the bodies of the first and second lumbar vertebræ had been fractured, and the second had been forced backwards. The fracture had united by ossific matter, which had been spread over the forepart of both vertebræ, to a considerable extent, and a little had been deposited on the dorsal vertebræ. The spinal canal had been much diminished, from a portion of bone being forced into it from the first vertebra of the loins. This portion of bone had split the theca vertebralis into two, and divided the spinal marrow almost entirely. A bulbous projection of the spinal marrow, appearing above and below the bone, formed by its divided extremities, which were separated nearly an inch asunder.”

A preparation in the late Mr. Brooke's museum also showed that union could take place in fracture of the vertebræ, by considerable ossific matter being deposited in an accident of this description. The two cases also which I have related in my former paper, the case at Penkridge and that of John Butler, prove that reparation of the bone can

take place. In both of these the displacement of the vertebræ show that fracture had occurred.

If in these cases union of the bones took place, how many are there which unite where there is no change of the situation of the parts. No doubt, in many cases where patients recover, as we think from concussion alone, there is simple fracture of the vertebræ also; for at the time of the injury it is impossible for us to ascertain whether the bone is broken or not, and the opportunity seldom occurs to examine a patient who recovers from such an injury after death.

The first of the cases mentioned by Sir A. Cooper is particularly interesting, not only as relates to the fracture uniting, but also as relates to some of the symptoms. The regaining the power of the bladder and rectum is what I am alluding to. The urine was drawn off by a catheter for six weeks; and after this time, although the chorda spinalis was nearly severed through, and the lacerated extremities were almost an inch asunder, yet the patient could retain a pint or a pint and a half of urine, and in six months he could expel it of his own accord without the aid of the instrument. The same phenomenon takes place in the rectum: he is enabled to retain the fæces, and expel them of his own accord every three or four days. These facts are very extraordinary. Sir A. Cooper thought it probable that he discharged his urine more by the action of the abdominal than by any other contraction of the bladder. This may have been the case; yet when we consider how the abdominal muscles are supplied by nerves, they themselves must also have suffered paralysis, more or less, from the injury, and therefore their action must have been incomplete, and more particularly at the lower part of the abdomen. A question may be asked, how far the junction of the anterior spinal nerves with the sympathetic, which jointly supply the bladder and rectum, might have influenced the return of their functions. All the anterior spinal nerves, which are those of motion, form a ganglion with the sympathetic. Now, although, it is not possible that any nervous influence could be conveyed to the bladder from the lower part of the medulla below the injury, yet, by the channel of the sym-

pathetic, which communicates by the anterior branches of the upper portion, such might have been the case. It appears to me very probable that the muscular coat of the intestines, and partly that of the bladder, receive their power of motion from the junction of the sympathetic with the anterior spinal nerves; and if so, the return of this function, in the case just related, might be easily accounted for; for if, when the trunk of an artery is obliterated, the circulation can be carried on by its ramifications, why should not the nervous circulation (if I may use such a term) be carried on by the communication of nerves with the healthy portion of the chorda spinalis? It remains, however, for the experimental physiologist to prove the truth of this suggestion.

Whether any reparation of the laceration of the medulla ever takes place or not seems very doubtful. I have not met with any cases recorded of it, nor have I seen any preparations in our museums that would prove that it would. Wounds of the medulla, with sharp-pointed instruments, have been known to get well. M. Ollivier has related several cases where the spinal chord has been wounded by the point of a sword, and the patients have, either wholly or partially, recovered. In one instance a young man was wounded by a quadrangular poniard on the left side of the neck, just below the ear, and at the origin of the spinal chord. He immediately lost all power of motion and sensation in all the parts below the head; in fact he was perfectly paralysed. At the eighteenth day he began to recover a little feeling in the left side of the body. On the twentieth day he could move slightly his fingers and toes of the arm and leg of the same side; and he continued improving until the 30th day, when sensation began to return on the right side, being gradually followed by the return of the power of movement. He received the injury on the 31st of Jan., and could walk, though slowly and feebly, like a child, on the 26th of May following.

M. Ollivier also records other cases, where the patients wholly or partially recovered after the chord had received a wound from a clean-cutting instrument. It appears, therefore, that if the chord be only cut or pinched, the wound will

heal ; but if it be lacerated, there is as yet no fact to prove that such an injury will be repaired.

I shall now allude to a living subject who has recovered from a wound of the spinal chord. It is not in a man, but in a cat. This cat was prowling under the table, when a fork fell from it, and stuck into his back, and wounded the spinal chord. He had complete paraplegia below the wound, dragging the hind legs, the tail, and the lower part of the body, along the ground by the forelegs. I happened to see him at that time, and recommended that he should be killed, to put him out of his misery, and then we might also dissect him to see the injury done to the spine. No one, however, felt inclined to do so disagreeable a task, and he has lived on to prove to us that a prick on the chord can recover. After the first fortnight or three weeks, his lost powers began to return. He could not stand on his hind legs, but as he moved along, he first made attempts, by a kind of rotatory motion of the lower part of the body, to touch the ground with his feet. From this he by degrees could put his feet on the ground, every now and then tumbling about. He got stronger and stronger, until he could walk upon all the four. But, as you see, he has even now convulsive twitchings of the hinder legs, like chorea. This accident happened about four months ago.

[To be continued].

ON SOUND.

To the Editor of the Medical Gazette.

SIR,

IN objecting to Boerhaave's attempt mathematically to demonstrate that all the sonorous pulsations of the atmosphere that fall on the pinna were concentrated in the auditory passage, I did so with much reluctance, notwithstanding that Magendie also opposed this idea. And in pointing out that the experiment of Javart was a dereliction of nature, when he severed one part from another part of the cuticle which covers the pinna, lines the auditory passage, and forms the outer fold of the tympanic membrane, and also separated this membrane from the bone and divested it of cerumen, I did so with reluctance, and felt that I was

encountering a Mentor in science. It is, however, satisfactory to find that many professional gentlemen are more impressed than formerly with the importance of the stethoscope, are experimenting with it in every form and material they can devise, and that those whom I have lately conversed with acknowledge my ideas to be generally consistent with the physical and sonorous structure of the ear.

In this department of acoustics I anticipated much opposition, because of the difficulty that all experience in effacing from the mind old, and replacing them by new impressions. At an early period one philosopher remarked, "Are you to overturn a theory that has existed for upwards of 3000 years?" Another remarked, "I admit your general knowledge in acoustics, but you will not induce me to believe that sound in the ear does not act by the tympanum:" whilst others said they did not perceive what the economy of speech in apartments had to do with the structure of the human ear.

I did not, however, expect the same degree of scepticism in regard to my principles as applicable to acoustics generally, because it must be admitted that nothing was understood that could be termed scientific; nor had any practical utility been effected, and whatever knowledge I may have attained in relation to the stethoscope and the ear originated in my endeavours to trace effects to their causes in the elements of nature, and especially in apartments as connected with the economy of speech.

You were pleased to stamp my several essays with a certain degree of consequence by admitting them into your able work, but from not experiencing opposition or correction openly, I have been left alone to trace this mazy path.

I shall now endeavour to show that no one department of acoustics can be understood without contemplating all the elements by which it operates, from the source of sound until it is delivered at the seat of sense: and the nature and effects of different media, and what has the most predominant and influential effects, and needs most to be regulated in order to prevent discord in sound, &c.

I will endeavour further to illustrate this part of my subject hereafter, and, in the meantime, hope to be favoured

by a place in the GAZETTE for this and the following observations. —I am, sir,

Your very obliged servant,

W. SHAND.

1, Somerset Place, Glasgow,
Jan. 21, 1842.

Doctor Neil Arnott remarks, that “the structure of the ear illustrates the laws of sound;” which is, no doubt, correct, but the difficulty is to ascertain the physical arrangement in its natural state, because it cannot be dissected without loss of moisture and tension. In fact, in the live body, and in a natural state of organization, most parts of the ear are peculiarly sonorous; but in the inanimate body it becomes comparatively non-sonorous; it is like wax or resinous matter, which, at a low temperature and in a certain state of concretion, is sonorous, but when softened by heat it becomes comparatively unsonorous; most of the component parts are extremely minute, and their acoustic properties, from this cause also, difficult to be understood.

It is much less difficult to understand and define the sonorous properties, and the character of sound in external bodies, and, by analogical reasoning, to demonstrate those of the ear, and if I have attained any knowledge of the operations of sound in the stethoscope and the ear, it has been by experimentally considering it as connected with the economy of speech in apartments, and throughout the various elements of nature.

If it be admitted that sound is not produced, but arrested, in a vacuum, and only produced and transmitted by action and friction, and also, that intensity and rapidity of transit is generally in the ratio of the density of bodies, with certain exceptions*, we shall sooner arrive at truth in many minor points, but so long as the atmosphere is viewed as the ruling medium, *in opposition to mechanical action in other cases*, error and perplexity must be the result.

For the reasons given, the laws of

* Lead is a very dense body, but its ductility and general pliability make it comparatively little sonorous. Resinous matter, at a certain temperature, is similar in its sonorous nature; and when colder, and its particles become hard and more separated, it becomes more sonorous. Woollen cloth damps sound in the atmosphere from two causes—its soft yielding nature, and its surface entangling and impeding the atoms of the atmosphere.

acoustics are difficult to be understood by contemplating the structure of the human ear, or by comparative anatomy. It is as necessary to consider the arrangement and action of different matter from the origin of sound until it reaches the seat of sense, as it is to take into consideration the whole of the component parts of a steam-engine, in order to attain a knowledge of the principles on which it is constructed, and the means by which it operates. In both cases, the solid governs the fluid, *which may be considered the yielding medium*, by which the solid is allowed to move. In regard to speech or music, for instance, the solids in the windpipe and in musical instruments may be said to produce sound, to propel, direct, and guide the fluid (air), and if it be intended to increase or diminish the degree of sound, or alter the nature of sound, this is effected by alterations in the solids; but the Creator has so adjusted the atmosphere that no modification by the hand of man is necessary; and yet it is remarkable that it is usual to reason as if the atmosphere were the element chiefly, if not solely, to be considered in this case.

In comparing the steam-engine, or any artificial compound mechanism, with the mechanical sonorous arrangements of nature, I would remark that, although the solids are the principal ruling medium in both cases, the former are adjusted and fitted by different masses, and the external surfaces of these being made to fit truly upon each other, that sound is produced and conducted by the *atoms* of all the media from the origin of sound to the sense of hearing, moving upon each other, and occasioning friction; the degree of sound produced being in the ratio of the hardness of the denser atoms. It is usual to reason as if sound were conducted on the surface of solids, but this is in no instance the case; *all the atoms of a solid must be in motion, and when tremulous action ceases in an atom sound, is also arrested in it*, as certainly, in every other instance, as in the musical string, both in solids and fluids. It is also to be observed that, as sound is more rapidly conducted by sonorous solids than by the atmosphere, the atomical or tremulous motion by which it is produced must also be more rapid, *and the medium that is first put*

in motion must give impetus to that which is more tardy in action; still shewing the predominant influence of the solid over the fluid: and yet it is remarkable that all writers on the economy of speech in apartments consider little beyond the general form of an apartment, and do not attempt to discriminate between bodies, some of which may be termed conductors, and others non-conductors, or reflectors and absorbents of sound. There is no rule for adjusting these, and the consequence is, that the louder the voice of the speaker is, the more is it deranged, and the less distinctly is he heard. In evidence before Parliament, certain individuals have approved of particular apartments as genial to speech, whilst others are of a different opinion, simply because these parties were in different places, and their ears influenced by different bodies; all of which proves the predominant influence of solids, and that they produce very different effects, also the necessity of their being adjusted. As sound is produced in the ratio of the density of bodies, or rather of certain atoms, and according to their position to and medium distance from each other, more friction and sound is produced in the atoms of sonorous solids than those of fluids; but the atoms of the fluids yielding more freely to each other than those of solids, sound also passes in all directions. According to these principles, *sound in the atmosphere passing in all directions, it impinges on all the surfaces of all the solids within its reach*, and in this way the tremors in the atmosphere produce sound in the solids in proportion to the extent of the surfaces of the solids within their reach, and on which the atmosphere operates. But if a limited part of one solid be struck upon another solid it produces exceedingly more sound than if the solid be moved with the same force and rapidity in the atmosphere. All these simple facts prove the predominant sonorous power of sonorous solids over atmospheric influence; and that, as the motions in solids are quicker and friction greater than in fluids, it is in conformity to such rules and principles we are to reason in relation to sound both externally and in the ear: and to give the precedence to air as a more rapid and potent conductor than the solids and denser fluids in the human

ear, is more inconsistent than to suppose that the slowest horse on a race-course shall first reach the winning-post, or that a vessel that has to encounter fields of broken ice, and contrary winds, shall reach the destined port as soon as if the sea were smooth and the wind fair.

ILLUSTRATIONS

OF THE

PATHOLOGY, DIAGNOSIS, & TREATMENT OF OPHTHALMIC AFFECTIONS.

By EDW. HOCKEN, M.D. M.R.C.S.L. &c.

[Continued from p. 586.]

*Hyperæmial forms of amaurosis—occasionally an intermittent affection, from sympathy with distant organs, &c.**

IN my previous communication the subject of hyperæmial amaurosis, produced by sympathetic disturbance, engaged my attention; and I then narrated a case of gastric irritation, which produced a secondary derangement of the cerebral circulation, and that of the visual nervous system generally, with amaurosis of both eyes. The hyperæmia may, however, be intermittent instead of permanent; and most of the cases which occur in our climate can generally, I think, be traced to this

* The following note from Trnka may be of interest in connection with the case of retinitis in my last paper, following an injury of the side. "Nervorum remotiorum cum oculo consentientium læsiones vel solæ irritationes præprimis vero nervorum intercostalium magnorum. 'Véri eruditi, inguit A. Monro, inter se non conveniunt, qualem nervus intercostalis habet originem, dum alii ejus communicationem cum ophthalmico negant, alii vero contrarie sentiunt, ejusque connectionem cum hocce adfirmant: sic quoque Winslow aperte dicit, ophthalmicum per unam alteramve fibrillam cum sexti paris nervo et cum nervo intercostali communicare. De ejus tamen origine disputare animus hic non est, neque plura quæ a quibusdam pro ineerto habentur, proferre, quatenus ad observationem nostram non multum faciunt, et nobis, uti ex Petit observationibus constat, sufficit, maximum inter intercostalem et illos nervos dari consensum, qui oculo, uveæ, atque pupillæ inserviunt, sed tantum ea, quæ majoris utilitatis sunt adnotabo.' 'Ex experimentis enim Petiti memoratis supra adnotam est, post nervi intercostalis abscissionem in animalibus vivis factam oculos obscurari, splendorem suum amittere, lacrynare, cavos fieri, globumque oculi diminui, pupillam angustari, coarctari, &c. Denique intercostalem ramos conjunctivæ, glandulis oculorum, et fibris uvæ, quibus pupilla dilatatur suppeditare.'"—*Trnka Historia Amauroseos*, vol. i. p. 297-8-9. 8vo. Vols. 2, 1781.

source. Intermittent amaurotic affections are usually divided into those which take place in the evening, and remain during the night (hemeralopia), and those which occur in the morning, but disappear towards night (nyctalopia). The description of an affection in which an attack occurs daily, at a stated period, passes gradually off in a short time, and then recurs in the evening to remain all night, was quite unknown to me until I met with the following case.

CASE.—Peculiar intermittent amaurotic affection, partaking of the nature both of hemeralopia and nyctalopia, preceded by severe pain in the region of the stomach, and attended by the phenomena of determination of blood to the head.

Charles Nethercott, ætat. 12, was admitted as an out-patient suffering from an intermittent amaurotic affection, which had existed a fortnight, on the 23d of September, 1841. These attacks came on daily at 12 o'clock at noon, and at six in the evening. His features were thick, his neck short, and his general appearance full and congested. He had worked as a baker for some time, and was constantly exposed during his employ to the influence of considerable heat, although his actual fag was not great, and in other respects not unhealthy.

Three years ago he suffered from almost complete loss of vision of both eyes, which came on gradually, and was attended by severe headache and frequent attacks of giddiness, which last were so severe as to occasion momentary insensibility, under which condition he fell down, but recovered his consciousness almost immediately. The amaurosis was attended with muscæ and luminous spectra. At that time it was completely cured by the employment of purgatives, blisters behind the ears, and more permanent counter-irritation kept up at the back of the neck, with other antiphlogistic treatment.

The present attack came on about a fortnight since, in the same manner as the previous illness. It was preceded by violent pain in the region of his stomach, which he complained of especially some three weeks before the occurrence of amaurotic symptoms. The pain was only occasional, but

severe in kind, especially after food, and connected with dyspeptic symptoms. Concurrently and prior to the commencement of the intermittent attack, he complained of a sense of weight and oppression about his head, headache, and vertigo.

His countenance appears flushed and congested, and bears evidence of the oppression and giddiness of which he complained. His eyes (not during the attack) appear vascular, but otherwise healthy; the pupils somewhat dilated, but moveable; but there was little else remarkable in the mere objective symptoms worthy of record. He complained of some slight but permanent imperfection of vision; dull, oppressive, occasional headache; vertigo; muscæ volitantes; and luminous appearances. About 12 o'clock at noon every day he lost his sight almost completely in both eyes; the attack being daily preceded by the ordinary phenomena of cerebral congestion, which, with the amaurotic condition, invariably passed off in a gradual manner after about an hour's duration. The same symptoms were acted over again in the evening; it recurred somewhere about six o'clock, and continued permanently during the night, again disappearing in the morning. His health at present seems tolerably good, with the exceptions I have mentioned. His appetite is good, and he complains but little of oppression and flatulence subsequently, and he has not suffered from pain in the abdomen since the actual attack has commenced.

Diagnosis.—Judging from the history and symptoms I came to the conclusion that this was a peculiar intermittent amaurotic affection of congestive character, probably of sympathetic origin; and my diagnosis was strengthened by turning to the account of the permanent amaurosis which occurred three years before, both as regards its symptoms and cure.

A course of alterative and purgative remedies was directed.

He applied again in the same condition on the 1st of October.

I trust in some future paper to give the further progress and termination of this case.

REMARKS.—The foregoing case appears to me of considerable interest, both as clearly dissecting the remote and local pathology of an intermittent

amaurotic affection, and proving that the amaurotic affections of this nature, occurring in this climate, do sometimes clearly originate in gastric disturbance. As regards the intertropical idiopathic hemeralopia, its pathology is doubtless different; and so also must the nature of those cases be narrated by Mr. Warton, of the United States Army Medical Staff, where the cure was effected in the space of from 36 to 48 hours, even though in some the affection had lasted for three months, by simply confining the person for that space of time in a completely darkened apartment*. True, the foregoing case differed widely from ordinary hemeralopia, but we are apt, and justly too, to consider that something in common exists uniting intermittent and periodic affections, although it would manifestly be foolish to waste much time in the investigation, or attempts at explanation, of a subject which presents no data sufficiently defined for the establishment of conclusions based on inductive principles. Our part is to observe carefully, describe accurately, and draw conclusions with caution, and not to indulge in idle speculations or barren theories: and, indeed, periodic affections must have presented a very tempting field for the unchecked wanderings of the mind in the field of fancy to the philosophic Sydenham, when we find him, after cautioning his readers on this very point, indulging shortly after in mystic explanations, and comparing the stages of an intermittent to the workings of beer-barrels, which, he tells us, are apt to fly. The pathology of derangements belonging to the general nervous system are manifestly obscure; to which class many periodic derangements undoubtedly belong. Are we thus to arrange the intermittent affections of vision? or, on the contrary, regard them as local affections, aggravated at those seasons when either some natural tendency to periodicity, or some contingent causes, operate with sufficient energy†? Whatever may be the true

answer to these questions in general, I believe that the latter query is true in the instance before us, although I profess myself quite unable to give an explanation; and that the pathology, both remote and local, was exactly similar to the case narrated in my previous communication, with something besides that determined its periodicity: but supposing the local irritation to have operated on the general nervous system, we have here an explanation of the mode in which the local derangement of innervation produced its local effects, viz., by deranging the local circulatory system. It appears to me, that my explanation, as far as it goes, derives support from the consideration of the phenomena and cure of his previous attack, in which the causes produced a continued affection of hyperæmial sympathetic amaurosis, being similar to the present, but wanting that something which imparted an intermittent character to the present: besides, the present attack was accompanied with a very slight degree of imperfection of vision between the periods, proving that nearly the same connexion subsisted between the intermittent and continued affection as is known to exist between intermittent and continued fever; the mild form, by aggravation, passing to the quotidian, this to the remittent, and the latter again into the continued, or by a favourable change becoming intermittent from remittent. To speak of treatment:—We find that intermittent affections will resist anti-periodic remedies if local disease be present, and then blood-letting, mercury, &c., which relieve such complications, render the general operation of bark, &c. effective: so in the present instance, quinine may have been indicated, after the condition of the alimentary canal, and the local congestion, had been relieved, provided that such treatment was not in itself sufficient. To continue my illustrations of hyperæmial amaurosis I will now narrate a case.

second, that its description as an inter-tropical affection frequently appears to depend simply on exhaustion of the powers of the retina from excessive stimulus during the day; or again, it is symptomatic of a scorbutic condition of the general constitution. In this country it occurs very rarely in connexion with paralysis of the voluntary muscles, as in Dr. Pye's case, but much more commonly from sympathy with the intestinal canal or chylopoietic viscera.

* Edinburgh Med. and Surg. Journal, No. cxlviii p. 266.

† Of the intermittent affections of vision denominated nyctalopia and hemeralopia, I would observe, that I very much doubt if the first ever possesses an independent existence, as an uncomplicated, idiopathic, or distinct ophthalmic disease—at all events in this country; and of the

Case of hyperæmial amaurosis, from determination of blood to the head, apparently dependent on the rapid healing of ulcers accustomed to discharge freely.

Peter Ekers was admitted into the West of England Eye Infirmary, complaining of great imperfection of vision in both eyes, on the 21st of June, 1841. He was ten years of age, and of a decidedly strumous constitution, having suffered from scrofulous enlargement, induration, inflammation, and then suppuration of the cervical absorbent glands, especially during the last five years; and he stated that he had resided in a country situation during his life-time. His neck had latterly been very bad, and had given rise to extensive abscesses and ulcerations, which had discharged constantly and profusely, until within the last six months, when they began to heal, and healed very rapidly—the last abscess having healed about three weeks before his application, since which time he has lost his sight, at present (June, 1841) not being able to distinguish even large print, and complaining of great dimness of vision.

No other causes could be adduced than the rapid disappearance of the discharge to account for the equally sudden supervention of his symptoms.

Symptoms.—His countenance appears full and congested, especially the temples; pupils dilated and nearly motionless; organs of vision preternaturally vascular. He complains of slight pain over the brows, and a sense of fulness and distension in the orbits, with a general sense of oppression, weight, and pain in the head. His tongue was healthy; pulse rather quick and full, but regular; his bowels confined. In other respects healthy.

He was ordered two or three doses of calomel, after which a purgative; blisters behind the ears and neck; hot and stimulating pediluvia nightly.

June 25th—The pain and fulness he complained of were much relieved, and he appears in all respects better.

July 2nd—Continues better. The blister to be kept discharging. Pergat.

16th—His sight and all his other symptoms continue to improve daily. The blister has healed: to take an aloetic pill every night.

23rd.—His general appearance is now greatly improved; his pupils are now

much less dilated; has lost all pain in the head, and sense of weight and fulness over the brows; and he states that he can see tolerably well. He was discharged cured on the 6th of August.

Remarks.—The rationale of this appears clear; ulcers and abscesses, accustomed to discharge freely, are somewhat suddenly healed, and a local determination of blood results, followed by the usual symptoms of hyperæmial amaurosis from this cause. Similar cases to the present are recorded. Beer narrates an illustration of the same fact, where the amaurosis succeeded the rapid healing of ulcers of the legs; he cured it by reproducing the ulcers by the action of sinapisms the size of the hand applied daily, with stimulating pediluvia.

When a drain, to which the system has become habituated, is suddenly stopped, two effects may result; either a general repletion of the vascular system, leading in time to some injurious consequences, or else determination of blood to some organ, similar in nature to that vascular derangement which induces a vicarious hæmorrhage from suppressed menstruation. The last is the most common form or mode of action, and the one effected in my present case. The mere difference of cause need not influence the treatment where the pathology is similar, but bleeding, local and general, if indicated by the general powers, purging, counter-irritation, and hot and stimulating pediluvia, are sufficient; indeed few patients would be willing to try the effect of mustard cataplasms to the site of previous ulcers, and their daily repetition; and our rule should be, to cure in the mode most consistent with reason, not only quickly, but with as much freedom from unnecessary suffering to our patients as possible.

I will conclude this paper by the narration of another case of hyperæmial amaurosis.

Hyperæmial amaurosis from general plethora, in its advanced stage, affecting the left eye.—Ellis Bolt was admitted a patient into hospital on the 7th of June, 1841; he was twenty-four years of age, tall, robust, and of a full and plethoric constitution of body. On his admission, he complained of almost complete loss of vision in the left eye, but stated that the right organ was quite perfect in its functions. He had been losing

the vision of the left eye, gradually, for the last twelve months, and during and before that period had been suffering from severe pulsatory headache, especially affecting the right side, accompanied by excessive giddiness, greatly increased by stooping, and stating that if he continued this posture for a long period his senses left him, and he could with difficulty recover his balance. Previous to his application he had been under treatment for some time, and had been, among other things, bled from the arm,—a proceeding which afforded him relief, but of no long duration.

Symptoms.—At present (June) he suffers from the same sense of fulness in the vessels of the face and head, with severe headache, almost complete loss of vision in the left eye, with photopsia. The pupil of the left eye is much dilated, and moves very sluggishly by the alternation of light and shade. The vertigo continues very troublesome, especially on stooping; pulse full, strong, and frequent; tongue clean; appetite good; bowels regular. He was directed the tartar emetic ointment to be applied to the back of the neck, sufficiently often to keep up an active eruption, and purgative doses of sulphate of magnesia, with sulphuric acid, three times a day.

July 6th.—The pain in the head has been greatly relieved since the commencement of treatment, and the sight has much improved. The discharge from the back of the neck has been kept up with perseverance, and its local effects are now considerable. To continue the same medicine.

27th.—All the symptoms of determination of blood to the head have disappeared, and his visual powers in the left eye are restored, or nearly restored, to their normal energy. He was discharged perfectly cured in a day or two.

REMARKS.—When local determinations occur, in the advanced stages of absolute or active plethora, the local symptoms of the deranged functions of the part concerned in the morbid process differ not from those which are present in the other forms of determination arising from accidental causes, but they have superadded to them those also which arise out of the constitutional condition itself: hence, in these cases, in addition to the treatment instituted for the local determination, the constitutional de-

range ment requires specific attention. In the case which I have just detailed the beneficial influence of continued purgation, with sufficient counter-irritation in the neighbourhood of the deranged organ, is well illustrated, especially when we reflect that the disease had been a full twelvemonth, if not more, in its progress, and was under treatment only about six weeks, when he was discharged perfectly cured. To the fulness and plethoric vigour of the patient's frame, the full, rapid, and strong pulse, were superadded the florid and bloated countenance, the deep-seated pulsatory headache, the extreme giddiness, and its great aggravation by stooping, of local determination of blood to the head; and this, doubtless, deriving its origin from constitutional causes, and not from any accidental circumstances, as the slow but gradual and progressive advance of the amaurosis and other symptoms abundantly testified.

15, Southampton-street, Covent-garden.

[To be continued.]

ON THE UTILITY OF PRESSURE PREVIOUSLY AND SUBSEQUENTLY TO PAR- TURITION,

AND ESPECIALLY IN CASES OF HÆMOR-
RHAGE FROM THE UTERUS; WITH AN
ACCOUNT OF A NEW FORM OF BANDAGE.

To the Editor of the Medical Gazette.

SIR,

If you deem the following case of sufficient importance to merit it a place in your pages, I shall be glad if you will insert it.—I am, sir,

Your obedient, servant,

GEORGE SAWYER, M.R.C.S.L.

27, Myddleton Square, Pentonville,
Feb. 4, 1842.

The attention of the medical profession having of late been called (in your valuable publication) to the great utility and advantage of bandages both before and after parturition, and as I have had much experience in this branch of the profession in town and country, having met with many cases where the application of a bandage was indispensable, and the result always a favourable one, I consider it not only a duty but a privilege to add my testimony to the experience of Drs. Waller, Murphy, and others. I have been so

long impressed with the necessity and importance of the support given by the above means in the latter months of pregnancy, and immediately prior to, during, and after, labour, that I sometime ago designed an elastic bandage, which has given me much satisfaction in the cases I have tried it; also one non-elastic, where elasticity would not be available. The use of the elastic one was most advantageously brought into action and put to the test three or four months ago, in a case of very severe hæmorrhage from the uterus, after the birth of twins, which was witnessed by my friend and neighbour, Dr. Golding Bird. After emptying the uterus of all coagula, &c. which had collected to an alarming extent (a practice which I always adopt under such circumstances, and should not feel myself justified in omitting), the bandage in question proved a most useful auxiliary; a napkin doubled was put between it and the skin, in order to increase the pressure. After repeated attacks of syncope and excessive flooding, the patient recovered by the use of the usual remedies, expressing herself in high terms of the benefit and comfort she had received from the application of the elastic bandage.

Description of the elastic and non-elastic bandages.

The elastic one consists of a firm band of jean cut to the shape of the hips, with an elastic front, formed so as to adapt itself to the abdomen. At each end is a tape passing through a loop which ties across the abdomen.

The bandage used during pregnancy is more concave internally than the other; the elastic front being formed of wires placed transversely in rows of seven in number; the wires are covered with calico, and the space between corrugated in folds.

The flat bandage used subsequently to accouchment may be made either with wires or one piece of elastic band.

The non-elastic one is made of jean with longitudinal cords, laced in the front with an elastic band at the inferior edge.

The bandages have been shown to some of the heads of the obstetric art, and they have much approved of them, thinking that they were likely to answer all the purposes for which they

are intended. A patient of Dr. Golding Bird's, labouring under ovarian dropsy, found the non-elastic bandage a great comfort and support: to use her own words, she considered it quite a treasure.

DISEASE OF
THE HEART AND PERICARDIUM.

To the Editor of the Medical Gazette.

SIR,

WHETHER disease of the heart and pericardium be of more frequent occurrence than of yore, it signifies little or nothing to inquire; our improved method of diagnosis and of treatment render it more readily cognizable, and a host of writers and lecturers have striven to make it incomprehensible to the profession. If the student or young practitioner presume to investigate and think for himself, before he rests his implicit faith upon the oracular dogmata laid down in the excellent work of Dr. this, or broached in the admirable lecture of Mr. that, he runs no small risk of ending with no opinion at all. It is for the guidance of such persons that I offer the following practical remarks on the nature and treatment of pericarditis, as so many data tending to narrow down that subject to its smallest possible limit.

Some years since it was announced that an American anatomist had traced the continuity of the white fibrous tissue of the limbs with that which enters into the structure of the pericardium, and thence deduced an explanation of pericarditis supervening upon rheumatism—its most common form. Now the first appreciable symptom of this state is slightly hurried and laborious respiration, followed by increased impulse of the heart; and if the sensations be correctly described, the act of pressure elicits an expression rather of *soreness* than of *tenderness*. I have known these symptoms, particularly after the disease has extended, ascribed to pleuro-peripneumony; the patients have been largely and frequently bled, and still the wonder grew that patients should be found to die after the orthodox treatment for so manifest a complaint. Nevertheless, the symptoms indicated inflammation of the

fibrous structure of the pericardium; for the pulse was not hard and tense, but loose and jerking—the pulse, in fact, of rheumatism. At this time, also, the stethoscope indicates nothing to be connected with the pericardium; there may be a slight bruit de soufflet, but that is merely from the functional disturbance. Should the practitioner fortunately be at hand, the progress will be arrested by local blood-letting and blistering; by a full dose of calomel, followed up with colchicum and tartarised antimony, and the use of a mustard pediluvium. If not, it extends to the serous lining of the pericardium very rapidly, and soon the pulse becomes hard and contracted, but still jerking. The stethoscope now conveys to us the bruit de frottement—the to-and-fro sound of Dr. Watson—indicating, according to my experience, the state of inflammation *preparatory* to the deposition of lymph. The patient so very rarely dies at this precise period, that I have not been able to ascertain, in a single case, that lymph may be deposited, the surface remain unadherent, and the bruit de frottement continue to the last; as stated by Dr. Watson, in the *MEDICAL GAZETTE* for July 1836. Under any circumstances this sound is never of long duration; for if contra-stimulant doses of tartarized antimony, aided by the local means, do not remove it, it is superseded by the craquement de cuir, a sound of admitted value, as indicating the deposition of lymph, and warning us that mercury is our sheet-anchor—nay, our only resource. I must here contrast the opinions of two of the greatest authorities upon this point—the late Dr. Hope, and Dr. Watson. Dr. Watson says, “Either the patient dies in a short time, or the sound ceases, never to return, while the condition of the patient improves, or he even seems to himself and to others to recover his perfect health. In these cases the sound ceases from a physical impossibility of its continuance, viz., from adhesion of the pericardium over the whole, or the greater part of the surface of the heart.” He then deduces as a corollary from his previous statements, “That acute pericarditis, so far advanced as to occasion the pathognomonic rubbing sound, does not admit of a perfect cure; and that its best event is the adhesion of the mem-

brane, and the obliteration of its cavity.”

Now this view is so glaringly at variance with a passage from Dr. Hope’s work on diseases of the heart (which is confirmed by my experience in public and private practice, and in the dead-house), that I must be excused for attempting to obliterate what I humbly conceive to be one of the “false facts” in medicine. Dr. Hope writes, “After an acute attack of pericarditis, which has been most probably subdued by antiphlogistic treatment, unless the effused lymph, as well as the serum, be absorbed, it causes an adhesion of the pericardium, and thus lays the foundation of destructive disease; commencing, perhaps, with palpitation or some other symptom of organic disease of the heart. Now antiphlogistic measures can neither prevent the effusion of lymph, nor with any degree of certainty cause its absorption. Mercury can do this, as is visibly displayed in iritis: mercury, therefore is the sheet-anchor of the practitioner.”

Of the numerous patients appearing before us at hospitals and dispensaries, complaining of affections of the heart, a very large proportion trace them to rheumatic pericarditis; the majority die speedily, and few only can be brought under the control of medicine.

It is therefore imperative upon every medical man who is called upon to treat these cases in the outset, upon no account to sit tamely down, and submit to an adherent pericardium, even after the evidence of effused lymph is unequivocal. Many, by proper treatment, do recover quite out of this state of matters; and I have every reason to believe that some have been successfully treated by myself; many more, however, have, within my own knowledge, fallen victims to the consequences of adhesion, palpitation, hypertrophy, retracted valves, dropsy, and so on.

Some years since, when Chairman of the Hunterian Society at Edinburgh, I imparted my views to a distinguished foreigner, who laid them subsequently more in detail before the members of that Society; and afterwards, if I mistake not, made them the basis of his Inaugural Thesis for the degree of M.D. Should this meet his eye, or that of any one who, recollecting, has carried out these observations further

han myself, I beg him or them to favour me with the result of their experience.—I am, sir,

Your obedient servant,

REGINALD BURRIDGE, M.D.
Physician to the Taunton and Somerset Hospital.

STRANGULATED HERNIA.

To the Editor of the Medical Gazette.

SIR,

THE publication of the following cases of strangulated hernia treated with opium, will oblige

Your obedient servant,

GEORGE COOPER.

Greenwich, Feb. 14, 1842.

John Brown, aged 50, with a large inguinal hernia, was seized with symptoms of strangulation, on the 16th of November. Applied to Dr. Mitchell on the 18th, at whose request I saw him. The symptoms were most urgent; and having failed with the taxis, we proposed an operation, which he refused to submit to. On the 19th, Mr. Busk saw him, and recommended me to try large doses of opium, as Mr. Bransby Cooper had informed him of a surgeon in Somersetshire, who, for the last eighteen years, had so treated such cases. I immediately gave 4 grs. of opium, which relieved the pain and sickness, but produced no change in the tumor. In four hours I repeated the opium, and five hours after gave a third dose of 4 grs. 20th.—Free from pain and sickness; the hernia in same state; he had occasional sickness, and a few doses of opium at intervals till the bowels acted, without any apparent alteration in the hernia, from which time he quickly recovered, and the hernia returned by degrees.

Mrs. Woodhouse, aged 70, was taken with symptoms of strangulated hernia on the 22nd of January, and sent to me on the 25th. She had a femoral hernia which I could not reduce; she is sure it was not present before the 22nd, when she had a violent fit of coughing. I gave her 2 grs. of opium, with the effect of relieving the pain and sickness; five hours after, 2 grs. more opium. The following morning she said the hernia was gone, and she was quite well; there was no return of bad symptoms, but the bowels did not act till the 29th.

ANALYSES AND NOTICES OF BOOKS.

“L'Auteur se tue à allonger ce que le lecteur se tue à abréger.”—D'ALEMBERT.

A Treatise on Dislocations and Fractures of the Joints. By SIR ASTLEY COOPER, Bart., F.R.S., Serjeant Surgeon to the King, &c. &c. A new Edition, much enlarged, edited by Bransby B. Cooper, F.R.S., Surgeon to Guy's Hospital. London: Churchill. 1842. 8vo. pp. 576.

TRUE as it may be that it is perfectly unnecessary to indulge in any general expressions of eulogy towards the name of Sir Astley Cooper, we cannot approach the notice of any work which emanated from his pen, without a feeling of deep regret at his loss, and of the most sincere and highest respect for his memory. Time has not yet softened the one: it can never obliterate the other. In these sentiments we know the whole profession will cordially acquiesce. The warmest expressions of attachment we could employ for the character of Sir Astley Cooper as a good and honourable man, and as a great and distinguished surgeon, would be merely a just tribute to his moral worth, and his pre-eminent professional talents. Among the various works for which the profession were indebted to Sir Astley Cooper, none was more worthy of his fame, none more useful to, or more required, by his surgical brethren of every stage and rank, than that of which we have now before us, a new, revised, and enlarged edition. It must be well known to all our surgical readers that Sir Astley's work on dislocations and fractures was the first in which was given a systematic, clear, and precise diagnosis of the dislocations of various joints. He was one of the first who insisted upon, and who proved by a mass of evidence which few but he could have accumulated, the great importance of constitutional means in enabling the surgeon to reduce dislocations. Before he, too, opened his rich store of practical information, many limbs with complicated dislocations had been condemned to the amputating knife, which he shewed might have been trusted to simple treatment and the remedial powers of nature. These, and many more equally

important and valuable principles, were established by Sir Astley in his work on dislocations and fractures. Its merits were quickly and duly appreciated by surgeons in this and foreign countries. It run through many and numerous editions, and still another was required to keep pace with the demand. It is now given to us by an editor who is well known to be fully capable of executing even so responsible a duty with every credit to himself, and advantage to the profession. The task, indeed, of bringing out a new edition of this important work was assigned to Mr. Bransby Cooper by Sir Astley, some time prior to his lamented decease. In his preface the editor expresses the gratification he has experienced from the sentiments conveyed, in the mass of correspondence, as well as from the additional cases which have been contributed from various sources since the last edition, as they all tend to form so many various yet concurrent testimonies of the soundness of the principles which it is the object of the work to inculcate. From the sources here referred to, from his own practice, and from much new matter afforded by Sir Astley himself, Mr. Bransby Cooper has added considerably to the present edition. In preparing it for the press, he liberally acknowledges the assistance he has received from Mr. Druitt, of whose aid he was compelled to avail himself in consequence of his time being so much occupied in writing the life of Sir Astley, and in professional avocations.

We have no intention of entering into a detailed account of the contents of the work, or of a critical examination of its merits. Both are well known to the profession. It would be a libel upon a practitioner of surgery to suppose him unacquainted with Sir Astley Cooper's work on dislocations and fractures; and imperfectly indeed will the surgical student aim at attaining information upon the very important branch of surgery upon which it treats, if he does not consider it as his guide and book of reference.

Without entering into an elaborate detail of the work, however, we must not pass over some of the remarks and additions of the editor, which strike us to be practically important. Sir Astley Cooper, as many of our readers are

aware, deprecated, and upon very good grounds, the violent attempts that were frequently made to reduce dislocations of old standing. He was inclined to judge of the propriety of making such attempts by the time that had elapsed after the injury had been inflicted. Upon this subject the editor "would respectfully submit to the author," whether there be not a better criterion by which to judge of the propriety of attempting to reduce a dislocated limb, than the mere length of time since the accident occurred. He asks, and we think very properly, whether the principal consideration ought not to be the precise condition of the new joint, especially as to the degree of motion of which it is capable, for by this a fair judgment may be formed as to what extent nature has altered the surfaces of the bones in contact, to fit them for the functions of a joint in their new situation. "If any useful motion can be performed, then I believe it may be considered as ill-judged to attempt to restore the dislocated bone to its former articulating cavity; for it seems invariably to happen, that as a new joint becomes fitted for use, so the structures of the old one are rendered incompetent to restoration." These changes, too, Mr. Bransby Cooper very accurately states, depend less upon time than upon the attempts which have been made to use the supplementary articulation. If an unreduced dislocation be maintained in a perfect state of rest, the changes which take place are very often slow, and in such cases months may elapse, and yet it may be quite proper to attempt reduction; while, on the other hand, if continued efforts have been made to employ the limb, and a useful motion be acquired, more permanent injury is likely to be sustained by the restoration of the bone to its original situation, than if it be allowed to remain, and means employed to perfect the adaptation of the recently formed structures*.

In the section on fracture of the pelvis, a case is related in the work, during the treatment of which a flexible gum catheter was introduced and secured in the bladder; but it was withdrawn after some days, as no urine flowed through it, when it was found

* For additional observations upon this subject by Mr. Bransby Cooper, see *Guy's Hosp. Reports*, vol. i., p. 99.

blocked up by earthy deposit, and the gum in part dissolved. The editor remarks upon this case, that this earthy matter consisted of the phosphate of lime, which is always copiously secreted by the mucous lining of the bladder and urethra in these cases; and therefore the catheter ought always to be withdrawn once in every forty-eight hours to prevent it from being obstructed by the phosphatic deposit, or dissolved by the ammoniacal urine.

In addition to various causes assigned in the work for the absence of bony union in the transverse fracture of the neck of the thigh-bone within the capsular ligament, the editor adds another, to which due weight should be given. He urges that the cellular membrane, which surrounds ordinary bones, is an important agent in the reparation of fractures. It is the medium through which blood-vessels are supplied to the periosteum, and it is the seat of a copious effusion of adhesive lymph, which lymph becomes organised and ossified, and constitutes the provisional callus which unites the fracture. But in fractures of the neck of the thigh-bone, the fracture is separated from the surrounding cellular tissue by the capsular ligament, and therefore the union cannot be effected by a provisional callus. Every surgeon is aware of the warm, and, on one side, not very courteous contest that was formerly carried on, upon the question of ossific union of fractures of the neck of the thigh-bone within the capsular ligament. The editor is quite of Sir Astley's opinion, that such a union does not take place except under peculiar circumstances, and that the exception occurs only when the periosteum and reflected membrane of the neck of the bone has not been torn through, and when, therefore, the fractured extremities are not separated from each other. He does not believe in bony union of the neck of the thigh-bone, where solution of continuity has occurred; and "no cases have been published which militate against this opinion." The following anecdote was related to Sir Astley by Mr. Cross of Norwich, while he was attending an hospital on the continent. One of the surgeons observed, "Some of the English surgeons do not believe that we unite fractures of the neck of the thigh-bone: now there is one you shall examine, as the

patient is dying." The patient did die. The joint was examined: the bone was found still disunited.

Dislocation of the Patella. — Mr. Bransby Cooper remarks, that if in any future case the reduction should appear impossible, without dividing the tendon of the patella, it should be performed by what is called *subcutaneous section*; that is, by merely puncturing the skin on one side of the tendon, and introducing a curved pointed bistoury, so as to divide the tendon without enlarging the wound in the skin. "This would be much less likely to do mischief than the long incision that was practised in this case." (p. 198.)

In addition to the treatment advised by Sir Astley, in a case of effusion into a joint, Mr. B. Cooper recommends Mr. Scott's plan in similar instances. "The part is first to be washed in spirits of camphor, and then to be completely enveloped in an ointment of equal parts of mercurial ointment and soap cerate, with a little camphor (ceratum hydrarg. comp. of the Pharmacopœia), spread thickly on lint. This is to be covered with several layers of strips of adhesive plaster spread on linen or leather, and applied tightly enough to give a comfortable feeling of support, and the whole to be covered with a bandage. This plan combines the advantage of support, slight counter-irritation, and the application to the skin of a substance capable of exciting absorption. (Mr. Cooper speaks with approbation of the practicability of an instrument invented by that very ingenious young surgeon, Mr. Lonsdale, which we have seen employed in two or three instances at the Middlesex Hospital, with decided advantage, for the purpose of keeping portions of a fractured patella in contact. "It produces no constriction of the limb.") As an excellent substitute for softened pasteboard in various cases of fracture, where the object is to retain the bones in a fixed position, the starched bandage is recommended by Mr. Cooper. At page 335 we find the following case, which is too important to be omitted. The editor has now (Nov. 1841) a case under his care of most extensive fracture of the lower ends of the tibia and fibula, with compound dislocation of the astragalus inwards, which is at this moment in rapid progress towards recovery, under the simple treatment re-

commended by the author, namely, semiflexed position of the limb, lint dipped in the patient's blood placed over the wound; the continued application of evaporating lotions; calomel and opium to subdue irritation; and saline aperients with antimony to maintain the secretions. The dislocation was reduced by Mr. Ceely, of Aylesbury; and when Mr. Cooper first saw the patient, a part of the astragalus still projected through the wound, and confined a portion of the skin so tightly under it, that he deemed it necessary to remove the piece of bone. By this means the skin was immediately liberated, and the foot readily placed in its natural position. The result of this practice is an additional illustration of the validity of Sir Astley's views respecting compound injuries of the ankle joint, especially as to the propriety of removing projecting portions of bone, rather than by violent extension attempting to return them into their natural position. In reference to the classification of various dislocations of the elbow-joint as laid down by Sir Astley, Mr. Cooper suggests that the dislocations of the radius alone, forwards and backwards, should not be considered as dislocations of the elbow-joint, but of the superior radio-ulnar articulation.—(Note, p. 439).

In cases of fracture of the olecranon, "the patient," says Mr. Cooper, "should be cautioned against using his arm too freely till the uniting ligament has acquired strength and firmness." A patient of Mr. Mayo's, whose olecranon had been fractured, and had united in six weeks by a ligament of the ordinary firmness, suffered severely from neglecting this precaution. After using the arm for some time, he found it became weaker and weaker. The uniting ligament was entirely absorbed, so that the fractured olecranon was drawn up by the triceps, the power of extending the elbow was also lost, and the limb became wasted and useless. A very mortifying case of this kind occurred in our own practice.

Fractures of the Fingers.—"In almost all cases of compound fracture of the last phalanx of the fingers, it is better at once to amputate than to leave the reparation of the part to nature, because, from the peculiar structure connected with it, the healing is slow and difficult, and can hardly occur without ankylosis to the second pha-

lanx."—Note by the Editor, p. 510. Mr. Cooper has constantly observed, in cases of fracture of the spine, a peculiar suffused appearance of the countenance, like that of a person recovering from asphyxia. He does not remember, nor do we, to have seen this symptom noticed by any one else. He always relies upon it as a diagnostic mark. He attributes the appearance referred to, to imperfect arterialization of the blood, through the inability of the muscles of respiration to perform their office properly. No doubt this is the correct explanation; and we would observe that, therefore, this "peculiar appearance" can scarcely be relied on as a diagnostic mark of spinal injury in particular. Would it not equally be present in injuries of other parts, accompanied by the same impeded action of the muscles of respiration? If we were to consult our inclination, we might extend much further our notice and extracts from the new matter added by Mr. Cooper to his edition of the celebrated work of his equally celebrated relative. But we must stop, and we do so with the less regret, because we are sure that the book itself will be in the possession of every surgical practitioner, who is anxious for the best information upon the very important and difficult branch of surgery upon which it treats. Independently of those improvements in this new and enlarged edition, to which we have already referred, there are still others which too strongly claim our notice and approbation to be silently passed over. The octavo form in which the work is now presented to us, is much more convenient than the original quarto size. The engravings executed by Bagge, with his wonted clearness, elegance, and accuracy, are now, too, placed in immediate connexion with the text they are intended to elucidate; an advantage which we think every reader will appreciate; for to turn to the end of a book for graphic illustrations, is at once very inconvenient, and distracting to the attention of the student. The thanks Mr. Cooper returns to his publisher, for the care which has been bestowed upon the general arrangement of the publication, and the minute details of its typographical execution, are justly merited. We must observe also, that the price of this edition is only half that of the former editions.

MEDICAL GAZETTE.

Friday, February 18, 1842.

“Licet omnibus, licet etiam mihi, dignitatem
Artis Medicæ tueri; potestas modo veniendi in
publicum sit, dicendi periculum non recuso.”

CICERO.

MEDICAL REFORM BILL.

WE mentioned last week that a Bill on the subject of medical reform, comprising various important changes, has been prepared, and is to be brought into parliament by Sir James Graham. The details of the measure has not yet been made public, though they have been communicated, we understand, to the governing bodies of the several medical institutions concerned in them. Some reports relating to the changes proposed have, however, spread abroad; and these we shall communicate, not doubting that our readers will be anxious to learn, at the earliest possible opportunity, all that can be told them of the matter; and that their curiosity will be too great for them to require strict verbal exactness in that which we acknowledge to have heard only through general report.

The bill does not contemplate, it is said, to diminish or increase the number of corporations at present granting diplomas to practise. There is no intention of adopting, in any degree, the plans of the *one-faculty* system. Neither is it intended to alter the general style and title of the several classes of practitioners; the division into physicians, surgeons, and general practitioners will not be meddled with, nor will the denomination of either be altered. There is, moreover, as we learn, no clause for the suppression of quackery in any of its protean forms, by actual punishment; it will only be, as it is now, *discouraged*, by not permitting those who practise without a license or diploma to recover their expenses in the courts of law, and by

forbidding them to be elected to any medical service in a public or charitable institution. But in both these respects, greater caution and more investigation than have hitherto been exercised, will be used; the lists of the members of each college will be more duly registered and made public, and a central superintending body will give greater facilities for the detection of those who at present practise under the guise of being authorised.

Thus far, however, the new measure will be merely affirmative of the present state of things; effecting no other change than giving, if it be possible, strength and stability to those things which have recently seemed tottering. In furtherance of this purpose also, it is, we believe, proposed to give a new charter to the College of Physicians, by which their license to practise may be made more essential than it now is to those who do not practise in London; so that it may be considered to be as necessary for a provincial physician to have his license from this College, as for a provincial or London surgeon to have the diploma of the College of Surgeons; and this will probably be effected by making a diploma from one or other of the Colleges a necessary qualification in candidates for public offices. Some changes are also contemplated in the mode of election to the higher offices in the College of Physicians.

For the College of Surgeons it is understood that the changes will be limited to the increasing the necessity of the diploma for a title to offices, and to the constitution of an elective body from whom the members of the Council will be chosen. This body is to be composed of about two hundred, selected from the seniors of those members who practise surgery exclusively, or who have sufficiently distinguished themselves by their scientific works to be deemed worthy of the honour before the usual

age or term of practice. The two hundred will elect from among themselves the members of the Council, and will add to their own number those who are not of sufficient standing to claim the right of belonging to them. In other respects we have not heard that the constitution of the College will be materially altered by their new charter.

The greatest changes proposed concern the Apothecaries' Hall. The license to practise as an apothecary will still be granted by them; but, if we understand rightly, they will not in their new charter be empowered to examine candidates for it. This portion of their present functions will be discharged by the College of Physicians, or rather by a Board of Examiners composed in part of members of the College of Physicians, and in part of some from the Apothecaries' Company. Thus, each general practitioner, as his task is two-fold, so also will he have to pass a double examination: one at the College of Surgeons, in anatomy and surgery, which, as now, will entitle him to their diploma; the other before the Board already mentioned, in chemistry, the materia medica, midwifery, and the practice of medicine, which will give him the right to practise as an apothecary, in other words, as a physician, with the liberty to dispense and charge for his medicines, as well as for his attendance. His privileges will, moreover, be in some measure better guarded than they are now; for, except for the actual sale of medicines at reasonable prices, no chemist will be able to recover by action any sum from those to whom he has given advice, or whom he has attended.

It is proposed that, hereafter, these arrangements, which we have described for London only, should be made also, with as much uniformity as possible, for Ireland and Scotland; more espe-

cially in those particulars which relate to the granting of diplomas for surgeons and apothecaries: but, we understand, the present bill will relate only to the regulations for England and Wales.

To superintend the several medical institutions, and to give a concentrated force to their plans, which, by disunion, have hitherto been nearly powerless, there is to be proposed a Central Medical Board, composed of members of each corporation, with a certain number of non-professional gentlemen (members of the Government, and others) through whom all the affairs relating to medical police, to the medical superintendence of public institutions, attendance on the poor, on prisons, &c., will be regulated, and to whom will be referred all questions relating to alterations in the government of the several institutions,—who, in a word, will be the immediately deciding Council in all affairs between the profession and the public at large.

Such, as far as we have heard, are the outlines of the proposed scheme of medical reform: and, though we do not pretend to precision in our account of it, our readers may rely upon it that it is *generally* true. The bill, being brought in by the Secretary for the Home Department, will most probably be carried with only some alteration in its details: so that there is every reason to believe this agitated affair will now be settled; and this, though it be not done in the way in which any particular party in the controversy might think best, will, without question, be productive of great good to the profession: for public and private interests alike have suffered in the late incessant agitation.

For the present we shall not enter into the discussion of the particular merits of the bill: indeed, till we have it in a more exact form before us, it would be premature to do so. In its ge-

neral features, however, we think it commendable : it keeps clear of extremes ; it avoids all the dangers of things untried and not obviously advantageous ; it makes use of old materials, and proposes to strengthen that which is good rather than destroy it in common with the bad. The existing divisions of the profession have been so evidently the results, not of the endeavours of any one party to keep down another, but of the natural course of public inclination, that they could not, without danger to all, have been interfered with. And with these divisions, the three corresponding institutions are so essentially connected, that there would have been no less danger either in utterly abolishing any of them or in fusing them all into one. The preservation, therefore, of these things will certainly be beneficial ; and the benefit must be enhanced by giving stability, and the possibility of being energetic, to each in the discharge of its functions. For all these, therefore, which may be called the Conservative parts of the reform, we have no hesitation in thinking that the bill is to be praised. And here, for the present, we shall leave it ; that, with our readers, we may prepare ourselves for the fuller consideration of its details when they come before us in a plainer form.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

DR. WILLIAMS IN THE CHAIR.

Feb. 8, 1842.

On some of the more Important Points in the Treatment of Strangulated Hernia.

By GEORGE MACILWAIN, Consulting Surgeon to the Finsbury Dispensary, &c. and formerly Surgeon to the City of London Truss Society.

THE author commences by remarking on the too frequent fatality of strangulated hernia, and by sketching the mode of investigation through which the causes of this fatality can be safely exposed, and which he does not believe to be referable to the intrinsic danger of the malady.

In adverting to the symptoms, he thinks it material to separate those which are essential from those which are occasional or accessory ; since, in first demonstrating peritonitis to belong to the latter division, it assists us in developing the true relations of that affection. The application of cold, the warm bath, and the tobacco, are briefly considered. The disadvantages of the two former are held as outweighing what is alleged in their favour ; of the tobacco he approves, with some exceptions which are mentioned.

The taxis is represented as a measure which more frequently obviates the necessity of the operation, or, on the contrary, diminishes the chance of recovery, than almost any other measure singly considered. The author's experience obliges him to view it as a measure which is seldom properly employed, either as to the time or the principles by which its application should be governed, or the mode in which the manipulation should be conducted. These he describes, together with some signs by which the success or failure of the taxis may be generally prognosticated.

Conducted as he has too frequently observed it, he considers that the actual mischief arising from the taxis has not been exaggerated by Dessault and other practical writers. Bleeding the author considers as having contributed largely to the catalogue of unsuccessful cases ; and even in peritonitis subsequent to the operation, he would place that remedy under considerable restrictions. He knows not how he can convey his opinion on this subject or abstract better than by the concluding sentences of the section on this subject. His objections to bleeding generally are these :—

1st. Because the faintness it produces can be more safely procured by the tobacco.

2dly. Because the idea that bleeding is preventive of inflammation in strangulated hernia is, in a general sense, a pure assumption ; since any power of this kind, which it may exert in any case, depends on special conditions which have no immediate or necessary relations to strangulated hernia.

3dly. Because, such special conditions apart, bleeding has a direct tendency to diminish power ; and that any thing which persistently does so, in cases of local injury, tends to convert inflammation, which is circumscribed, healthy, and reparative, into the diffused, or some other morbid variety.

4thly. Because where bleeding has been employed antecedently to the operation, and peritonitis occurs subsequently thereto (a common occurrence, and a material fact), a remedy which ought now in many cases to prove useful becomes embarrassingly restricted as to its proper application : the previous bleeding having exasperated the

worst feature in all peritoneal inflammation, viz. the coexistence of great excitement and little power.

5thly. Because cases of this kind generally terminate fatally.

And lastly, Because the practice of one who abstained from bleeding in every stage of the malady was characterized by a success, to which neither the author's reading or experience affords any parallel.

Purgatives are regarded as fruitful sources of mischief, whether viewed as measures directed to procure the reduction of the hernia, or (as commonly employed) after the operation. It was the intention of the author to have suggested the proper place and uses of this class of remedies, by the consideration of certain forms of herniæ which are to be distinguished from those truly strangulated; but this plan the length of the paper obliged him to abandon.

An explanation is offered of such cases as are alleged to have been reduced by purgatives, which, whether regarded as satisfactory or not, still leaves the employment of the measures highly questionable, when their constant failure and manifold objections are fairly considered.

Admitting the abstract fact implied in the terms acute and chronic forms of the disease, he considers that the practice founded on this distinction has proved highly destructive, not only in relation to the use of the purgatives, but the general treatment; having, in fact, too frequently converted the most favourable cases into those of the most dangerous character. After some remarks on this subject, which he considers are supported even by those who most strongly insist on the distinctions referred to, the author considers the use of purgatives as instituted after the operation, to which he is equally opposed. On this subject he regrets being obliged to differ from Mr. Lawrence and Mr. Travers. The excitation of the canal, under circumstances such as Mr. Travers himself admits to exist, appears to the author not only highly inadvisable, but it institutes the very conditions most favourable to the peritonitis, regarding nothing more dangerous than irritants applied to the mucous membrane, whilst the alimentary canal is embarrassed as to its usual mode of dealing with such impressions. The directions in regard to purgatives (which are quoted from Mr. Travers), the author considers to be such as few surgeons will follow; whilst, from the assumption they involve as to the power of purgatives in the prevention and cure of peritonitis, he entirely dissents, considering the practice which would place much reliance on purgatives in peritonitis as in the highest degree objectionable. The collateral arguments deduced by Mr. Travers, from certain cases of omental, and again

from intestinal herniæ, wherein a portion only of the diameter has been engaged in the stricture, he holds as unsound; because his own observations, as well as the cases referred to in the notes, show that the facts of experience do not sanction the allegations.

The author considers that, when Mr. Lawrence allows of three or four hours as the interval previous to the employment of purgatives, he admits, in common with many other surgeons, the principle for which he (the author) would contend, but still so faintly as to leave him obliged to differ scarcely less with this distinguished surgeon, in a practical sense, than he does with Mr. Travers. When Mr. Lawrence designates that "fear as groundless," which acknowledges the probability that purges may excite or aggravate the inflammation, he delivers (in the view of the author), an opinion not only unsupported by the whole of the facts, of the strangulated herniæ, but one equally at variance with the pathology of serous membranes. So far, indeed, is he (the author) from doubting the competency of irritants primarily addressed to the mucous, to produce inflammation of the serous membrane, that he considers that most cases of peritonitis are readily traceable to such causes. That although the pathology of the alimentary canal affords the most abundant evidence of this mode of causation, and most pertinent to the present subject, yet that analogous facts are deducible from many other sources; as it is the general character of serous membranes to derive their inflammatory affections from causes, which demonstrably are addressed in a primary sense to the organs they invest, and that a common swelled testicle is a trite and clear example of the whole chain of phenomena. The author considers that those cases in which peritonitis has been found in other parts, the hernia remaining free from any morbid appearance, have very interesting bearings on the subject of peritonitis, as produced by treatment; and he also regards those in which the peritonitis has occurred several days after the operation, as equally instructive. The author then gives his own views of the causes of peritonitis in these cases, and concludes by stating the practice of the late Mr. Taunton, who was as adverse to the use of purgatives as he was to that of the lancet; and yet when the author succeeded that gentleman as surgeon to the City of London Truss Society, the published abstract of cases reported upwards of fifty which had been operated on by the late Mr. Taunton, with only a single case of failure.

The author concludes by a summary of his own practice. The measures employed for the reduction of the hernia are restricted to the simple enema, the taxis, and the tobacco; the order varying in different cases,

but all instituted without any unnecessary delay; if they fail, the patient is allowed time to recover from the effects of the tobacco, and the operation is performed. The hernia having been returned, and the patient conveyed to his bed, a regularly guarded repose, in the most strict sense of the term, is the one thing needful. Apart from the medical treatment, the author regards the general management of these cases in our hospitals as defective in many respects, and which admits of easy correction.

He is extremely opposed to the use of aperients; and regards twenty-four hours as the shortest period which should precede their exhibition, and then they should be preceded by an enema. If they are at length employed, they should be of the mildest character, be administered in small doses, at moderate intervals, and immediately discontinued on the occurrence of hiccup or sickness, or any evidence of disturbance of the stomach. The state of the intestine at the time of the operation, is, in the author's view, the most useful guide as to the time when we may excite the action of the bowels with impunity; but he by no means participates in the anxiety generally felt on this point: and while he admits the importance of a natural evacuation, he denies that the facts justify us in attaching a construction equally favourable, when the discharge has been the result of artificial measures.

Reluctantly passing over the consideration of certain insidious forms of peritonitis, as well as that of certain conditions simulative of it, both subjects of great importance, the author, partly in the text, and partly in a note, describes the question of bleeding; and in conformity with the facts and arguments, and the generalization on this subject, founded thereon in his work on *Inflammation* (see *Medicine and Surgery* one *Inductive Science*), would make it depend on certain conditions which are there stated. Practically, the result is, that he would bleed much less profusely than is the usual practice; be generally satisfied with the test of one full bleeding: and this he would conduct in the manner sanctioned by general experience. Ordinarily, he attaches more importance to powerful derivatives, as they were called, as mustard cataplasms to the feet, or powerful counter-irritation to the abdomen. The circumstances under which calomel and opium should be employed, are then spoken of, and the different forms which he prefers, according as his intention is to act on the liver chiefly, or to determine at the same time powerfully to the surface of the body. The employment of narcotic or sedative medicines, with a view simply to allay the irritability of the stomach, as se-

quents or aperients, he deprecates as a false and even dangerous view of the subject.

In all operations, he says, there are many conditions, the treatment of which it is difficult to include in any general direction, however comprehensive. These he proposes to make the subject of a future communication; but there are a few points which he would not leave wholly unmentioned. The first is, the caution to avoid officious medical interference, merely because the symptoms may not immediately subside on the completion of the operation. The second is, the consideration of the use of stimuli, or cordials, both rarely necessary or admissible, but still of such importance, when they are, that the life of the patient will, as the author believes, frequently depend on their cautious but prompt administration. As the indications are equivocal, and liable to deceive, the author describes three conditions which he believes to require this practice. The author concludes by expressing his regret at finding it impossible to treat the subject fully in the limits of a paper; he can only observe, that his opinions have been carefully formed, and the success of their adoption such, as to leave one feeling only, viz., that of regret, that he had ever pursued any other practice. The many important points omitted he hopes to consider in some future paper, referring to the notes of the present communication for many of the facts or authorities in favour of his views.

Several questions relating to the subject of this paper were discussed. Mr. C. Hawkins thought the use of the tobacco-enema was too generally commended; that it was both less useful than the warm bath; and altogether a dangerous remedy. Mr. Perry believed it was so only when sufficient time was not permitted to elapse between using it, and (if necessary) performing the operation, or when the strength of the injection was too great. Mr. Macilwain said, with proper care, and close attention, it was perfectly safe; and that if the right time for the employment of the taxis were taken while the patient was under its depressing influence, it was the most valuable means in all but a certain class of cases, which he had specified. The mode in which he used it was in an infusion of a drachm of tobacco to a pint of water; half was injected, and its effects were carefully watched before the other half was administered.

As to the influence of irritation of the mucous membrane in producing and maintaining peritonitis, which Dr. Addison and Dr. James Johnson opposed by the facts of the severest inflammations of the former (as in phthisis, dysentery, &c.) being unaccom-

panied by any disorder of the latter, Mr. Macilwain explained that it was not a state of inflammation of the mucous membranes to which he alluded, but one of irritation and disordered action, in consequence of which they dealt with stimulating influences in a manner different from that in which they would react in the healthy state.

Conversation also ensued as to the frequency of hernia, which Mr. Macilwain said existed in about one in every seven or eight of the labouring population; and as to its general influence in shortening life, which Mr. Macilwain and Mr. Hawkins said was doubtless very considerable, but which Dr. Webster thought much less than was generally imagined, referring, in proof, to the Registrar-General's returns, by which it appeared that in the last month only ten persons had died of hernia.

Mr. Busk mentioned two remarkable cases which had lately occurred to him, in which he had adopted the plan recommended by some gentleman in the West of England, of administering large doses of opium in cases of strangulated hernia. In both these cases, the patients, who were very old people, refused to be operated upon, though they were, it was presumed, *in articulo mortis* from very long-continued strangulation. Large doses of opium (in one four grains every four hours, for three doses,) were given, and the tumor gradually disappeared, and the patients both recovered, though in one fifteen days elapsed after the commencement of the strangulation before the bowels acted. Dr. Mayo also related a case in confirmation of the benefit of this mode of treatment.

ON SOME OF THE FUNCTIONS OF THE ORGANS OF CIRCULATION INDEPENDENT OF NUTRITION.

By S. SOLLY, Esq.

(For the Medical Gazette.)

THE object of this lecture was to demonstrate a more extensive application of the erectile tissue as a mechanical agent in the animal economy than has been generally supposed. Mr. Solly commenced by observing, that he had intended so carefully investigating the whole subject, as to enable him to produce a paper worthy of the Royal Society, but finding his time fail him, he considered that he had nevertheless collected a sufficient number of facts to make the subject interesting, and he now brought it forward in the hope that others would take it up, and either confirm or refute his opinions. The general functions of the organs of circulation, in relation to nutrition,

secretion, animal heat, &c. were simply explained to unprofessional hearers as introductory to the immediate object of the lecture.

Mr. Solly then proceeded to explain the existence of the erectile tissue, thus showing that blood, independent of its vital properties, performed a most important part in the animal economy as a mere mechanical agent. As the lecture was delivered before the female as well as the male sex, the lecturer was debarred from adverting to the most familiar illustration of this tissue, and he appeared to choose as the best under these circumstances, the cock's comb and the turkey's wattle in its stead. He next directed the attention of his audience to the swimming bladder of the fish as an instrument for buoying the animal in the water, illustrating his observations by numerous diagrams. He stated there were three kinds, one communicating by means of the œsophagus with the external air, which permits the expulsion of the air when the animal required an alteration in its specific gravity.

2nd. Consisting of a closed sac, containing a substance called the blood gland.

3rd. More rare, in which the blood gland and opening exist together. This so-called *blood gland*, which has hitherto been described by authors as an organ of secretion or absorption, the latter supposition being held by Rathké.

Mr. Solly considers a mechanical agent to compress the air in the sac, for the purpose of altering the specific gravity of the animal, in the same way as Dr. Buckland suggested that the body of the pearly nautilus did when retreating in its shell upon the air contained in its syphon. Mr. Solly's arguments were drawn from the arrangement of the blood-vessels, as shewn by his injections in the cod fish, by which he demonstrated their distribution to be such as is met with in a true erectile tissue, and not on a secreting surface; and the fact that this structure, as a general rule, exists only in connection with the perfectly closed bladder.

The red vascular substance which is found in the same fish, external to the bladder, and in contact with its anterior extremity, he considered as the reservoir of the blood when not employed in mechanically compressing the air in the bladder.

Mr. Solly next brought forward the following facts, in order to show that the ciliary processes in the eye are also erectile organs; and in virtue of their erectility, instruments for altering the position of the crystalline lens, and thus adapting the eye to focal distance.

1st. The peculiar arrangement of their blood-vessels, as shewn by the injections of the continental anatomists, and Mr. Dalrymple in this country.

2nd. The position of them in the cuttle-fish, where they partially divide the lens into two portions.

3rd. That where they are absent, as in the osseous fishes, their place is supplied by an organ called the choroid gland, which has been shewn, both by Professor Owen, *Cat. Coll. of Surgeons*, vol. iii. p. 145, and by Mr. Wharton Jones, *MED. GAZ.* vol. xxi. p. 850, to consist of a congeries of blood-vessels, or rete mirabile; and though not described by them as an erectile organ, evidently must perform that office.

4th. That in the cartilaginous fishes this organ is done away, and rudimentary ciliary processes supplied in their place.

5th. That the rudimentary character of these processes in the reptile is in accordance with the limited range and adaptation of the visual organs.

6th. That in birds, where this adaptation is required to be made with such rapidity, especially in the high soaring rapacious tribes, that in addition to the ciliary processes, which are very large, we find the pecten now universally considered an undisputed erectile organ, and described by Professor Owen as an instrument for adapting the eye to varied distances.

ST. MARYLEBONE INFIRMARY.

CASE I.—*Stick in the rectum.*

WALTER HODGE, aged 73, was admitted a patient into the St. Marylebone Infirmary. He was in a delirious condition, and made his complaints very incoherently. He said there was a stick in his rectum. When asked how it got there, he said he had put it there; but when it had been done, or for what purpose, could not be extracted from him. A finger was introduced into the rectum, but no stick could be detected. There was, however, some enlargement of the prostate. Mr. Phillips suggested that the sensation of something in the rectum might be caused by the enlarged prostate, and that in his delirious condition the sensation of a foreign body was sufficient to impress upon his mind the idea that it was a stick. A catheter was introduced into the bladder, and about four ounces of transparent, but high coloured urine removed. His pulse was small and frequent; the tongue dry and brown; the abdomen not at all tumid, nor was there any marked tenderness on pressure. His only urgent complaint was, that he could not sit up without pain. Mr. Phillips directed that he should have some wine and water, a warm bath, and half an ounce of castor oil. The next morning he expressed himself as a good deal relieved; but still there was no further information to be got about the stick. The pulse was

still small and quick; delirium much as yesterday; the tongue still dry and brown; the abdomen unchanged. The bowels had not been relieved; indeed, he had not swallowed the whole of the castor oil. He was ordered to have a common enema; and in the belief that he was labouring under a delusion about the stick, the nurse was requested, if any portion of the enema returned, to show him a piece of stick, as a means of relieving his mind. The enema brought away some fæcal matter, and a piece of stick was shown him, but he died on the evening of that day.

The following day the body was examined, and at six inches from the anus was found the inferior extremity of a stick, which was about as thick as an ordinary indicator finger; it was covered with its bark, and carefully rounded at each end. Its superior extremity had passed through the sigmoid flexure of the colon into the peritoneal cavity to the extent of four inches. The peritoneum was highly inflamed through its whole extent, but there was very little thickening about the tissues in the immediate vicinity of the perforated point. There was no appearance of disease in the rectum.

For what purpose that stick was introduced it is impossible to conjecture. There was no disease of the rectum, neither hæmorrhoids nor contraction. Had either of these conditions existed, it would have been easy to suppose that this stick was used as a bougie. But with a very capacious rectum, such a conclusion is inadmissible; and we can only assume that there may have been some painful sensation, which was calmed by the introduction of the foreign body; or that its use had been dictated by one of those sharp aberrations of the human mind, to which it is unnecessary further to refer in this place. There are some cases on record, such, for instance, as that by Rolet, where foreign bodies have been introduced into the rectum for the purpose of relieving pain. A devotee wishing to subdue severe colicky pains, passed into the rectum a phial of Hungary water, having at its upper extremity a small aperture, through which the water might pass and be applied to the part. The bottle grasped by the intestine slipped from his fingers, and was drawn above the sphincter. Again, in the *Journal of Desault*, tom. iii. p. 177, are the details of a case treated at the Hôtel Dieu in 1792. Eight days before his admission he introduced into the rectum a small conical preserve jar three inches long, the handle and bottom of which had been broken off, "for the purpose of relieving himself from an obstinate constipation." It was passed up by its small extremity, which was two inches in diameter. The sphincter grasped it, he lost his hold, and it passed out of his reach. The nearest

cases to our own are that contained in the *Mélanges de Chirurgie* of Saucerotte, p. 448. A man introduced into the rectum a plug of wood, three inches long by two wide, without any obvious motive. And that mentioned by Morand as having occurred to Gerard. A man, 60 years old, presented himself at La Charité complaining that he had the pipe of an enema syringe in his rectum, Gerard introduced the finger into the rectum; he felt a foreign body; and for its removal had recourse to lithotomy forceps. He did not think it necessary to take any particular precaution about the operation. The man was standing; the forceps was introduced; and when the man felt that the foreign body was seized, he flinched, and out came a knitting case six inches long. No history was obtained, the man having got away without notice. (*Mem. de l'Acad. tom. iii. p. 621*).

CASE II.—*Acute eczema.*

Coglan, aged 50, was admitted into the St. Marylebone Infirmary August the 17th, suffering from acute eczema, which affected the whole surface of the body, not excepting even the hairy scalp. She stated that eight days before she became ill, that there were red blotches over her face and hands, and that they were accompanied by "most dreadful" itching and great thirst; that up to that time she had suckled her child, but after two days she was obliged to give it up. When she was admitted the redness of the surface was very great; but here and there, especially on the face, the arms, and the neck, were covered with yellowish crusts. The irritation and feverish excitement were such as to prevent sleep, and to produce a good deal of exhaustion.

Wine and an aromatic bark mixture, with chop diet, were exhibited, in the belief that the exhaustion was the pressing circumstance of her case. The irritation and delirium were aggravated by these means. When the patient was seen by Mr. Phillips, he ordered those means to be discontinued, and substituted for them milk diet, acid mixtures, and opium. In twenty-four hours the improvement in her condition was very remarkable.

By the 3d of September the yellow crusts covered much of the face, the neck, the arms, the back, and some parts of the legs; but the irritation was still very considerable. The opiates were continued at night, and the whole of the body was covered with pledgets of ung. plumbi, which afforded her great relief. These pledgets were smoothly laid on morning and evening; the irritation was much abated, and her recovery was very rapid. On the 12th of September she was discharged.

What is interesting in this case is not so

much that the disease covered the whole body in eight days, though that is not a common occurrence, but that the irritation was so soon subdued by the application of the ung. plumbi comp. The first night of its employment was the first in which she had quiet comfortable sleep.

Mr. Phillips has frequently seen the good effect of a similar application to the legs, with a roller making equable pressure over it, when the irritation is very distressing; but he has more frequently used in those cases the cerat. plumbi compos. spread on porous paper, and cut into strips of two inches in breadth, and applied like strapping, and accompanied with equable pressure from a roller. Besides the soothing nature of these applications, the exclusion of air, which materially mitigates the irritation, and the support of a bandage, which prevents the development of œdema, and thus much lessens the difficulty of cure, it prevents the mischief of scratching, from which few persons can wholly refrain.

UNIVERSITY OF LONDON.

EXAMINATION FOR DEGREE OF M.D. 1841.

THE following gentlemen passed the Examinations, and have consequently been admitted to the degree of Doctors of Medicine.

First Division, Medical Schools, &c.—

*Cooke, William Marten, Webb Street; Cooper, Henry, University College; Goodfellow, Stephen Jennings, St. Bartholomew's Hospital; *Mackenzie, Frederick William, University College; Rayner, William, University College; Waddy, Jonathan Mason, Guy's and St. Thomas's.

Second Division.—Ayres, Philis Burnard, University College.

* To each of these a certificate of special proficiency in Medicine was awarded.

EXAMINATION FOR HONOURS.

Surgery.—Waddy, Jonathan Mason, Guy's and St. Thomas's.

Medicine.—Mackenzie, Frederick William (Gold Medal), University College; Cooke, William Marten, Webb Street.

Midwifery.—Waddy, Jonathan Mason (Gold Medal), Guy's and St. Thomas's.

The following works have been selected for the examination in Logic and Moral and Intellectual Philosophy for the degree of Doctor of Medicine in the year 1842:—

Logic.—Bacon's *Novum Organon*, Part I.

Philosophy of the Mind.—Cousin's *Analysis of Locke's Essay* (being the third vol. of his *Cours de Philosophie**.)

Moral Philosophy.—Butler's *Analogy*, Part I.; Steward's *Outlines of Moral Philosophy*.

* Of this an American translation is published under the title, *Cousin's Psychology*, and may be had at the American booksellers.

HANDSOME REMUNERATION.

To the Editor of the Medical Gazette.

SIR,

I BEG to forward you the accompanying advertisement, extracted from a Lincoln newspaper. I will offer no comment, but leave the facts to speak for themselves, and to prove the esteem and veneration to which our "honourable" profession is held in the county of Lincoln. To one striking omission, I may, however, just advert. The most liberal the Board of Guardians, have omitted to state whether any stabling is provided for the numerous horses which the "medical officer" must "knock up" in the course of the day; and further, whether or not he is gratuitously supplied with *night-bells*.

W. C.

Borough, Feb. 10, 1842.

LINCOLN UNION.

WANTED a Medical Officer, to take charge of part of the North District; comprising the several parishes of Cainby, Cammeringham, Falldingworth, Friesthorpe, Frisby West, Frisby East, Hackthorne, Cold Hanworth, Ingham, Normanby, Oromby, Lumford, Spridlington, and Saxby.

The contract must include all necessary attendances, appliances, medicines, midwifery cases, vaccination, &c., which are requisite for all pauper cases of sickness, surgery, &c. &c., occurring within the said several parishes, whether belonging to such parish or otherwise.

Trusses only to be excepted. Salary £25. per annum.—By order,

ROBT. COOKE,
Clerk to the Board of Guardians.

Lincoln Union, Jan. 31, 1842.

RECEIVED FOR REVIEW.

Ricord's Practical Treatise on Venereal Diseases. Translated from the French by Henry Pilkington Drummond, M.D.

Mr. Beasley's Pocket Formulary and Synopsis of the British and Foreign Pharmacopœias. Second edition.

On Rheumatism in its various forms, and on the Affections of Internal Organs, more especially the Heart and Brain, to which it gives rise. By Roderick Macleod, M.D. Physician to St. George's Hospital.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, February 3, 1842.

J. B. Stedman, Painswin House, Norfolk.—R. M'Lachlan, Shelf, near Halifax.—W. E. Hum-

ble, 3, Brunswick Terrace, Islington.—W. Hill, Sutton, Herefordshire.

Thursday, February, 10, 1842.

W. A. Dene, Barnstable, Devon.—Thomas Walker Grant.

A TABLE OF MORTALITY FOR THE METROPOLIS,

Shewing the number of deaths from all causes registered in the week ending Saturday, Feb. 5, 1842.

Small Pox	8
Measles	12
Scarlatina	8
Whooping Cough	68
Croup	5
Thrush	2
Diarrhœa	7
Dysentery	3
Cholera	0
Influenza	2
Typhus	14
Erysipelas	3
Syphilis	0
Hydrophobia	0
Diseases of the Brain, Nerves, and Senses ..	152
Diseases of the Lungs, and other Organs of Respiration	409
Diseases of the Heart and Blood-vessels	19
Diseases of the Stomach, Liver, and other Organs of Digestion	52
Diseases of the Kidneys, &c.....	4
Childbed	11
Ovarian Dropsy	0
Disease of Uterus, &c.	1
Rheumatism	2
Diseases of Joints, &c.	6
Ulcer	3
Fistula	1
Diseases of Skin, &c.	0
Diseases of Uncertain Seat	107
Old Age or Natural Decay.....	104
Deaths by Violence, Privation, or Intemperance	16
Causes not specified	6
Deaths from all Causes	1025

METEOROLOGICAL JOURNAL.

*Kept at EDMONTON, Latitude 51° 37' 32" N.
Longitude 0° 3' 51" W. of Greenwich.*

<i>February</i>	THERMOMETER.		BAROMETER.	
Wednesday 9	from 26 to 47		29.74 to 29.67	
Thursday . 10	39	49	29.80	29.94
Friday . . 11	43	51	29.90	29.94
Saturday . 12	45	52	29.93	29.95
Sunday . . 13	31	50	29.97	30.07
Monday . . 14	29	45	30.24	30.37
Tuesday . 15	37	51	30.34	30.33

Wind, south and south west.

On the 9th, afternoon clear, otherwise cloudy. The 10th, morning foggy, afternoon cloudy, evening clear. The 11th, noon clear, otherwise overcast; rain in the evening. The 12th, morning overcast, afternoon clear, evening cloudy. The 13th, morning foggy, afternoon and evening clear; rain fell heavily between 2 and 3 P.M. The 14th, and following day, generally clear.

Rain fallen, .355 of an inch.

CHARLES HENRY ADAMS.

WILSON & OGILVY, 57, Skinner Street, London.

THE LONDON MEDICAL GAZETTE,

BEING A
WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

FRIDAY, FEBRUARY 25, 1842.

LECTURES

ON THE

PRINCIPLES AND PRACTICE OF PHYSIC,

Delivered at King's College, London,

BY DR. WATSON.

Treatment of acute peritonitis; bleeding, mercury, opium. Chronic peritonitis: granular peritoneum. Ascites; ovarian dropsy; diagnosis of these diseases.—Other forms of abdominal dropsy.

ACUTE peritonitis, in its simple form, is always a dangerous, yet frequently a manageable disease. When it is complicated with other and earlier organic mischief, and especially when it has been excited by the entrance of foreign matters into the cavity of the belly, it is all but hopeless under any treatment.

In speaking of the mode of cure, I have again to repeat, *mutatis mutandis*, the grand remedies for inflammation, and particularly for the adhesive inflammation proper to serous membranes: *blood-letting: mercury.*

It is of the greatest importance in this, as in many other cases of inflammation, that the blood-letting should be performed *early*. You must not be deterred from bleeding by the mere smallness of the pulse: a quality which I have frequently shewn you to be characteristic of acute inflammation within the abdomen; and which, in the disease now in question, is often present from the very beginning. If the pulse be wiry and hard, we disregard, in these cases, its smallness. Not uncommonly it is rendered more full, as well as softer, by venesection; and this, when it happens, gives assurance of the propriety of that measure.

Topical blood-letting is of much efficacy—of greater efficacy perhaps than in most other forms of abdominal inflammation. Cupping is out of the question, from the

tender state of the abdomen. But in adults, after a full bleeding from the arm, such as has produced some sensible impression upon the circulation, or brought the patient to the verge of syncope, the surface of the belly should be *covered* with leeches. From twenty to forty may be applied at once: and sometimes this will make any farther loss of blood unnecessary. But in severe cases, you may expect to find that repetitions of at least the local bleeding will be requisite.

After the leeches have fallen off, a light poultice may be laid over the abdomen; or it may be assiduously fomented with flannels wrung out of hot water. These means will encourage the bleeding from the leech-bites; and are generally found to afford great comfort to the feelings of the patient. *Cold* applications have been recommended by some practitioners of high authority. Dr. Sutton injected cold enemata, and applied cloths, made wet with cold evaporating lotions, to the abdomen with good effect: and Dr. Abercromby has since reported favourably of the same kind of treatment. However, I should think this a more precarious plan than the opposite: and I have always observed so much relief to be given by warm fomentations that I have never had the inclination, or the courage, to employ cold.

It is extremely desirable, in these cases, to obtain as speedily as possible the specific operation of mercury upon the system; by calomel and opium, or by inunction. It cannot be necessary that I should again go over in detail the means of following out this indication; but it is an indication which we must diligently pursue.

The treatment of *puerperal* peritonitis is much more uncertain and difficult: for this reason—that it springs out of an antecedent morbid condition more deeply seated, more generally diffused, and less accessible to remedies, than itself. Whenever inflammation arises here and there in the body in consequence of a vitiated state of the blood,

we have not only the inflammation itself to deal with, but its physical cause also, which may still be in uncontrolled operation.

Dr. Ferguson justly remarks that "inflammation being made up of vascular and of nervous action, of the afflux of blood to a part, and of pain, it is not irrational to act on both the elements of the malady at the same time, or in periods shortly consecutive of each other." "The abdominal pain that occurs in puerperal fever, is accompanied by two very different states of constitution: one in which little or no depletion is borne, another in which relief is obtained only by very large evacuations of blood." Between these two there is every conceivable gradation. "In no malady are a cautious boldness, and a sagacious adaptation of remedy to constitutional power, more imperatively demanded."

"If large bleeding be determined on, it must, to be beneficial, be resorted to within the first 24 hours from the attack. In the second stage of the disease it often produces, rapidly, a fatal result."

In ambiguous cases he gives ten grains of Dover's powder, and covers the whole of the abdomen with a large linseed-meal poultice, sufficiently thick to retain warmth for four hours. At the end of that time, if the symptoms are alleviated, "ten grains more of the Dover's powder, and a fresh poultice, should be prescribed. If within four hours from this second medication, the practitioner is not satisfied that the malady is yielding, he must at once resort to depletion."

Of all the means we possess of arresting this malady, bleeding, general or topical, is, in Dr. Ferguson's experience, by far the most extensively applicable. "But," he says, "while I admit this, I am equally certain that *large* bleeding has not been borne in this complaint, generally speaking, during the last twelve years."

Another most important truth enunciated by our Professor is, that "epidemic puerperal fever has, invariably, the character common to the ordinary fevers raging with it: if the latter require depletions, the presumption is that the former will also."

Undoubtedly the very same species of febrile disease is variously affected by a given remedy in different places; and during different periods in the same place. There is such a thing as an epidemic state of the human constitution, gradually produced by a gradual fluctuation in the influences whereby communities of men are surrounded and impressed. The fevers that were cured in London ten or fifteen years ago by copious blood-letting, would now be rendered by that measure, carried to a like extent, irretrievably mortal. There is scarcely a more important object of study to the practical physician than this different capacity,

exhibited by the average of constitutions at different times and seasons, of bearing active depletion. "Nihil mihi prius est," says the watchful Sydenham, "quam quando novæ febres grassari incipiant, cunctari paulisper, et ad magna præsertim remedia non nisi suspenso pede, ac tardius procedere; diligenter interim illarum ingenium atque morem observare, quibus itidem præsidiorum generibus ægri juventur vel lædantur, ut quam primum his repudiatis, illis utamur." The exciting cause of the fever remains the same; the system upon which it operates undergoes from time to time great changes: which are brought to light partly by the altered phenomena of the disease, partly and chiefly by the effects of remedial measures.

Unless you bear these differences in mind, you will be perplexed and disheartened by the discrepant accounts given by competent and faithful observers, respecting the success of different or even opposite plans of treatment, in the same complaint.

Most writers whose works I am acquainted with, recommend *purgatives* as highly serviceable in peritonitis. I do not think the good which they are calculated to do as antiphlogistic remedies can at all be put in competition with the harm that I am persuaded they may produce, by increasing the peristaltic action of the intestines, and so causing additional friction and tension of the inflamed membrane. I believe that in all cases of well-marked and pure peritonitis, when the inflammation is limited to the serous membrane, it is far better and safer to restrain than to solicit the internal movements of the alimentary tube. In a pamphlet published several years ago by Mr. Bates, of Sudbury, some striking instances are recorded of recovery from severe peritonitis, under large and frequent doses of opium, and a rigid adherence to the horizontal posture, until all pain had subsided. The patients were not allowed to raise themselves, on any account, into a sitting position: and the opium was administered sometimes by the mouth, sometimes by the rectum. These cases, related in an unpretending manner by a practical observer, made a strong impression on my mind when I read them. To simple inflammation of the peritoneum, to those perilous forms of peritonitis which occur in women after delivery, and to those still more terrible cases that follow perforation of the serous membrane, this principle of keeping the intestines at rest is alike applicable. I stated a little while ago, that the last-mentioned cases are all but hopeless. The *all but* I inserted on the strength of some most interesting facts published by Dr. W. Stokes, in the 2d number of the *Dublin Journal of Medical and Chemical Science*. He truly remarks, that in most of

these accidents the powers of life sink so rapidly that bleeding, either local or general, cannot be attempted. Neither can we employ mercury internally, for fear of exciting the peristaltic action of the bowels, which of course would tend to tear asunder recent adhesions, to keep the communication between the mucous and serous surfaces open, and to cause a fresh ingress of fæcal or other extraneous matters into the sac. Yet in a few instances we find that the patients live for several days; and that a process of organization commences in the effused lymph. It seems that some years before Dr. Stokes wrote this paper, he had witnessed the admirable effects of opium in low forms of peritonitis, as administered by Dr. Graves; who thus saved two individuals in whom that disease followed paracentesis, without abstracting a drop of blood. I cannot refrain from quoting to you the particulars of one instance, in which the efficacy of the opiate treatment was conspicuous. The well-known symptoms of perforation of the intestines had existed for two days; the patient was apparently sinking, "his countenance was collapsed, anxious, and expressive of dreadful suffering; the extremities were cold, and the pulse hardly perceptible." The exhibition of sixty drops, in the twenty-four hours, of the preparation called the *black drop* was followed by the most signal improvement. The pulse regained fulness and softness, the extremities became warm, and the countenance had lost the Hippocratic expression. The patient could bear pressure on the abdomen, which, the day before, was exquisitely painful. The same treatment was continued for twenty-four hours longer; and by the end of that time every symptom of abdominal inflammation had completely subsided. The belly felt natural, there was no tenderness, the pulse was good, and the patient declared himself well." At this period of the case, Dr. Stokes omitted the opium, and gave the mildest possible saline laxative, as there had been no stool for 48 hours. Four evacuations took place, followed by the immediate return of the symptoms of peritonitis, under which the patient rapidly sunk.

"The intestines were everywhere agglutinated together, and adherent to the parietal peritoneum, except in the left iliac fossa, where a quantity of yellow puriform matter was collected. On detaching the caput coli from the peritoneum lining the right iliac fossa, a small perforation of the gut was discovered, by the escape of the contents of the intestines in a jet, &c. &c."

This example puts in a very strong light the *good* effects of *opium*; the *dangerous* effects of *purgatives*; and the *mode* in which recovery from these frightful accidents *may* sometimes be brought about.

Dr. Stokes gives another instance in which the patient *did* recover; after taking 105 grains of opium, besides what was administered in injections: and he alludes to a third case, in which the employment of opium was successful, when peritonitis had supervened upon the bursting of an hepatic abscess into the cavity of the abdomen.

Now I would earnestly recommend you to consider the expediency of applying the same principle of treatment, as an auxiliary, when the peritonitis does *not* grow out of previous organic disease: in all cases, in short, of *mere peritonitis*. The opium is not to supersede the bleeding, nor the mercury; it is not incompatible with either of those remedies; and it may, I believe, be most advantageously adopted in conjunction with them both.

I shall relate one example, which has lately occurred to me, of the successful use of opium in simple, but severe, peritonitis. Several of you saw this patient. His case is published in the appendix to Dr. Ferguson's volume.

H. Middlehurst, a tailor, 17 years old, was admitted into the Middlesex Hospital on the 17th September: looking very ill, and complaining of pain in the epigastrium, with extreme tenderness over the whole abdomen, which was full and tense. He had been ill several days; had shivered in the outset; and had vomited frequently, up to the period of his admission. His bowels were confined; his tongue was dry and white.

Twelve leeches were placed upon his abdomen, and calomel, in five-grain doses, was given two or three times at intervals of four hours. An enema of warm water was injected, and retained. In the evening sixteen more leeches were applied, and a drachm of mercurial ointment was rubbed into his arm.

I first saw him on the 18th. His countenance was then pinched and anxious, and he lay moaning with pain; his knees being drawn up towards his belly, which was tense, and exquisitely sensible to pressure. He complained of nausea and retching, but had not vomited since his admission. His tongue was thickly coated; his pulse small, sharp, 108 in number. No permanent relief had been obtained from the leeches.

I directed immediate venesection; but not more than four ounces of blood could be got from the arm. Thirty fresh leeches were therefore put upon the abdomen, and afterwards a warm poultice to receive the blood from their bites. Three grains of calomel, and three of blue pill, were ordered to be given every four hours.

The last leeches mitigated the pain; but it returned in the evening with increased severity, and he vomited the pills. He appeared to be in great agony. In this state the apothecary gave him twelve grains of

calomel, and five grains of opium, in one dose. Soon after this he fell asleep; and slept during the greater part of the night. Next morning his countenance had lost, in a great degree, its expression of anxiety; his belly was less tender, but still tense; and his tongue cleaner. No stool.

Capiat pilulæ Saponis cum Opio gr. v.
8vâ. quáq. horâ.

On the 20th the bowels were freely open, the dejections dark and watery; the abdomen was less tender. Pulse 114. He continued to take a grain of opium thrice daily till the 3d of October: the bowels being every day moved; the pulse and tongue gradually improving; and the abdomen painless even under firm pressure. On the 3d, as the bowels had not acted for the last two days, I discontinued the opium. On the 5th, diarrhœa set in, with some renewed tenderness of the belly; and the pinched and anxious countenance returned. He had then an opiate enema; and resumed the opiate pills as before. Under this treatment he at length got quite well; and left the hospital on the 30th.

Chronic peritonitis is sometimes merely the sequel of that acute form of inflammation of the peritoneum, which I have just been describing. Plastic lymph is effused, and becomes organized; serous fluid is poured out, and is not absorbed again; the products of the original inflammation remain; a low degree of inflammatory action perhaps remains also, or is re-excited by slight causes; the mischief augments; and the patient is slowly conducted to the grave.

There is, however, another, not at all uncommon, and equally formidable source of chronic peritonitis; the presence, I mean, of a multitude of little granules, lying within or immediately beneath the membrane, or occupying, in countless numbers, those folds of the peritoneum which compose the omentum. These granules occur principally, if not exclusively, in scrofulous persons. Louis, indeed, who considers them to be *tubercles*, affirms that they are never met with in the peritoneum, without being met with also—and usually in a more advanced state and greater abundance—in the lungs; but this rule is not universally true. I have seen more than one instance of well-marked granular disease of the serous membrane of the abdomen, without a single tubercle in the pulmonary tissues. Still the observation of Louis holds good in a vast majority of cases: and when we have symptoms of chronic peritonitis, which were not preceded by those of acute inflammation of the membrane, and when we perceive at the same time indications of phthisis, or of any other unequivocal form of scrofula, we shall seldom be wrong

in connecting the chronic peritonitis with the presence of these miliary granulations. Whether they are truly scrofulous tubercles, or whether, as some suppose, they are *sui generis*, or simply minute spherules of coagulable lymph, I do not undertake to determine. I have been in the habit of regarding them as the cause, and not as the consequence, of the inflammation with which they are found associated.

The *symptoms* of chronic inflammation of the peritoneum are more obscure, in general, than those of the acute disease. And when the disorder is primitive, not the relics I mean of more active inflammation, it often begins and steals on in a very insidious manner. The patient complains of abdominal pains: sometimes slight, amounting to scarcely more than uneasiness, but abiding; sometimes occasional only. Usually there is a sensation of fulness and tension in the belly, although its bulk may not be sensibly altered. Sometimes there is a sense of pricking felt. Dr. Pemberton remarks, that you may detect a sort of deep-seated tension; that the skin and muscles lie loosely on the peritoneum, which gives to the hand a sensation as of a tight bandage underneath, over which the integuments appear to slide. The uneasiness, or the pain, is augmented by pressure; or perhaps is felt only when pressure is made. Sometimes the functions of the intestinal canal are disturbed: there is loss of appetite; nausea and vomiting perhaps; an irregular state of the bowels, and unnatural evacuations from them. Sometimes, on the contrary, the digestive organs perform their office in a tolerably healthy manner. These differences depend apparently upon the circumstance of the inflammation visiting, or sparing, the peritoneal covering of the stomach and bowels; and of the parts concerned in the secretion of bile. Sooner or later, in most cases, the abdomen enlarges, and fluctuation is felt. All along there is some fever, more or less distinctly marked; and progressive emaciation and debility. The face is pale and sallow, and wears an expression of languor.

Very much the same set of symptoms are apt to result from scrofulous disease and enlargement of the mesenteric glands; and consecutive slow inflammation of the peritoneal membrane.

Accordingly, after death, we often find those glands swelled, and red, and hard; sometimes forming very large tumors: or we discover the whole surface of the membrane thickly bestrewed with innumerable small, round, greyish or white granulations: sometimes it is covered, here and there, or every where, with false membranes: the intestines are frequently agglutinated into one mass; or they are adherent to each other, or to the other parts of the peritoneum,

in places only. The omentum is generally thick, red, and fleshy, as if its component parts had been matted together; and there is more or less fluid, commonly turbid and flaky, in so much of the cavity as happens to be left.

These are very unpromising forms of disease; and it is seldom that we can do more than mitigate the most distressing of the symptoms; or retard, perhaps, the march of the disorder. Leeches to the abdomen, in moderate numbers, and frequently repeated, and followed by soft warm poultices. Blisters, when the pain is not severe, and the tenderness less. Attention to the state of the bowels, which should be regulated by mild laxatives rather than by drastic purges. A nourishing, but unstimulant diet. These are the measures to which we most look for benefit. It has been thought that frictions to the belly, with ointments containing iodine, have done good: so that it will be well to make trial of such. But do what we may, in nine cases out of ten, our best directed efforts will be disappointed.

When there is much fluid collected in the abdominal cavity in these cases, they take their character from this predominant symptom, and are called cases of *ascites*. But this is only one form of ascites—that form which depends upon chronic inflammation of the peritoneal membrane. I shall pass, however, by an easy transition to the other forms of dropsy of the belly.

There is another form of ascites, not very common, which approaches in its character to inflammation, and which is therefore called *active* ascites. I mean that we sometimes see persons, who were previously in good health, become rapidly ascitic, after exposure to cold and wet, and rapidly recover again under the remedies that are used to subdue inflammation. Perhaps it may be said that these *are* cases of inflammation; and it may be so. But they want many of the ordinary symptoms of peritonitis; and if inflammation *be* present, it has no worse effect than the effusion of serum, which, under depletion or mercury, is speedily taken up again. I should rather conceive, however, that these cases are to be included in that category of dropsical effusions which I spoke of formerly, as resulting, from the detention or absorption, in the first place, of an undue quantity of watery fluid into the blood, and its subsequent discharge, by a kind of secretion, either into shut cavities, or through some one of the natural vents of the body. The balance of the circulation between the skin and the internal surfaces appears to be destroyed on these occasions, by the operation of external cold upon the tegumentary membranes.

But by far the greater number of cases of

ascites are cases of passive dropsy which arise slowly from a mechanical obstacle to the free return of the venous blood towards the heart.

Ascites occurs, as you know, in general dropsy, with anasarca of the universal cellular tissue; and this general effusion of fluid depends, in almost every case, either upon a peculiar renal disorder, or upon organic disease of the viscera of the thorax; of the lungs, or of the heart, or of both; and, above all, upon such disorder as is attended with dilatation of the right chambers of the heart.

But I exclude this form of ascites, when the dropsy of the belly is only a portion of more general disease of the same kind, and limit myself at present to that kind of passive ascites which is unattended with dropsy elsewhere; or which at any rate precedes the occurrence of serous effusion in other parts.

The symptom which first leads us to suspect ascites, is the progressive enlargement of the abdomen. But the abdomen may grow gradually large and prominent when there is no disease whatever: in pregnancy, for example; or in mere obesity. It is necessary therefore to search for more definite signs of peritoneal dropsy.

In order to make an *accurate* diagnosis of ascites, we must know what are the morbid conditions with which it is most liable to be confounded. Solid tumors and simple corpulency are readily enough distinguished. But there are certain kinds of *encysted* dropsy of the abdomen, of which the recognition is not so easy and obvious. Of these what is called *ovarian dropsy* is the chief. In some of its symptoms this complaint closely resembles ascites: in some it differs from it widely. So also the treatment of the two disorders is alike in some respects; dissimilar in others. For these reasons, and because I am more solicitous to be practical than to be methodical, I shall consider these two maladies together; turning first to the one, and then to the other, and marking, as I go on, the various points of similitude, comparison, and contrast, which they mutually offer.

Recollect that ascites signifies the accumulation of serous liquid in the bag of the peritoneum; whereas ovarian dropsy consists in the collection of fluid in one or more cells within the ovary: or in a serous cyst connected with the uterine appendages.

One source of distinction between the two is furnished by the condition of the abdomen during their early stages.

In ascites the enlargement is uniform and symmetrical, in reference to the two sides of the body. When the patient lies on her back the flanks bulge outwards, or swag over, from the weight and lateral pressure of the augmenting fluid. This increased *breadth*

of the trunk is not observable in the case of an ovarian tumor ; nor, I may add, in pregnancy.

When we are able to trace the early history of ovarian dropsy, we find, in most instances, that the abdominal tumor was first perceived on one side ; in one or the other of the iliac fossæ, or somewhere between the ribs and the ilium. But when the enlargement of the abdomen is great, the distinction between ascites and encysted dropsy, drawn from the shape of the swelling, ceases. The ovarian tumor distends the abdomen, if not uniformly, yet nearly or quite as much on one side as on the other.

The next thing we do, when the *visible* bulk and shape of the abdomen have suggested a suspicion of ascites, is to employ the sense of *touch*.

Examination by *pressure* will sometimes suffice to assure us that there is fluid in the peritoneum. If you press suddenly with the tips of your fingers, in a direction perpendicular to the surface, you will often become aware of a sensation which it is difficult to describe in words, yet which is quite decisive, and not to be mistaken ; a sensation of the displacement of liquid, and of the impinging of your fingers upon some solid substance below. So that, by this manœuvre, you frequently detect, not merely the presence of the liquid, but an enlarged liver, or spleen, or (it may be) an ovarian or other tumor ; even when simple palpation, or handling in the ordinary way, would not enable you to ascertain these enlargements.

Again, *percussion* of the abdomen is fertile of information in these cases. First, by the sense of fluctuation which it causes when liquid is collected within. The left hand being laid flat against one side of the tumid abdomen, if a slight blow be struck with the fingers of the right upon the opposite side, the impulse is conveyed by a wave of the liquid to the open flat hand, which feels a little shock that is perfectly distinctive. The larger the amount of the accumulated liquid, and the thinner and tighter the walls within which it is confined, the more sensible and decided is this fluctuation. Even when the quantity is small, not exceeding a few ounces, a little practice and management will enable you to detect it. Percuss with one finger the most depending part of the cavity, and apply at the same time a finger of the other hand, very near the part struck ; and if liquid be there, you will perceive a limited yet distinct fluctuation. In the same way the presence of liquid in a small cyst may sometimes be ascertained. Much more when the cyst is large. And the cyst, in ovarian dropsy, is often very large ; and the liquid it contains is often thin and aqueous ; and then the fluctuation will be quite as perfect and perceptible as ever it is in ascites.

Hence, mere fluctuation is not a discriminating symptom between ascites and ovarian dropsy.

But, secondly, percussion is full of instruction in the *sounds* it elicits. The sense of *hearing* will generally supply what the sense of touch may leave wanting.

In true ascites the relative place of the liquid and of the intestines is determined by the posture of the patient. The bowels, which always contain some gas, float to the upper part of the liquid, and there give out (when the finger, as a pleximeter, is applied to the corresponding surface, and struck) their peculiar resonance. Mediate percussion will thus follow the gravitating fluid, and discover always a dull sound in the lowermost and a hollow sound in the uppermost part of the abdomen.

But it is not so in ovarian dropsy. The cyst, in a diseased and enlarging ovary, rises in front of the intestines, which, being tied down by the mesentery, cannot embrace the tumor so as to reach its anterior aspect, but are in fact pressed back by it towards the spine. Hence, if there be any resonance produced by percussion, it is in one, or the other, or in both, of the flanks ; and the umbilical region yields a dull sound whatever the position of the patient may be. The same is true of the enlarging womb in pregnancy.

This simple expedient, then, is quite decisive. In ascites the epigastric or umbilical region is tympanitic on percussion ; in ovarian dropsy it is dull. To be quite sure it is well to make the patient assume different postures in succession. If the person affected with ascites turns upon her side, the uppermost flank will become resonant ; the umbilical region dull : whereas in ovarian dropsy, the sounds remain severally where they were under every change of position. In ascites, with a little care, you may ascertain the exact level at which the contained liquid stands ; and measure its rise or fall from day to day.

This mode of diagnosis is scarcely open, under ordinary circumstances, to fallacy or exception. Yet there are two or three possible conditions in which it may fail ; and these it is right that I should briefly mention.

1. The distension, in true ascites, may be so great, that the mesentery shall not be broad enough to allow the buoyant intestines to reach the surface, when the patient is supine. This impediment to the efficacy of the proposed test I have met with in practice. A woman came under my charge in the hospital with ascites. Fluctuation of the belly was unequivocal. While she lay on her back, the umbilical and epigastric regions were resonant when percussed ; the flanks were dull. When she turned upon either side, the other side, previously dull,

gave the hollow sound; the umbilical and epigastric regions, previously resonant, gave the dull flat sound. Under the treatment employed, the accumulated liquid was removed, and she left the hospital.

Some time afterwards, as I was going round the wards, I recognized the same woman among the patients recently admitted by my colleague, Dr. Hawkins. The ascites had returned. The abdomen, enormously distended, projected upwards, as she lay on her back, to an excessive height. I found that fluctuation was very distinct, as before: but every part of the belly yielded a dull sound when struck by the fingers. At length this patient died: and it was seen, after death, that there was nothing to prevent the rising of the intestines. They had floated, at the utmost tether of the mesentery, as high as they could, without reaching the surface of the prominent belly.

2. Another occasional source of fallacy I have just now hinted at. The intestines may be tied down, and so prevented from ascending, by their specific lightness, to the upper part of the surrounding liquid. And this may happen, either in consequence of the adhesion of the various coils of the intestines to each other, and to the parts behind them; which is not an uncommon occurrence:—or the intestines, though unadherent, may be swathed, as it were, and banded down, by a thickened and diseased omentum. This also I have myself seen. A man died in the hospital, who had manifest ascites. Yet his whole abdomen, though not so much distended as to hinder the intestines, had they been free to rise, from reaching its walls, sounded dull on percussion. Inspection of the body explained this circumstance. When the peritoneum was opened by an incision carried through the fore-part of the abdomen, a quantity of serous liquid gushed out. The floor of the cavity which it had occupied was smooth and level; and was found, on farther examination, to be formed by a thick cake of omentum, strapped tightly over the subjacent intestines. Of course, the same diseased condition may occur in the female.

3. On the other hand, I have once known an ovarian cyst to exist, when the umbilical region was tympanitic under percussion. The case furnished just that kind of exception which serves to prove a rule. This was also a hospital patient. Her *history* was the history of ovarian dropsy. Some time previously she had discovered a small tumor in one of the iliac regions. It increased without much disturbance of her general health, until it became very inconvenient from its bulk. She was then tapped in one of the Borough hospitals: and she stated distinctly that it was not a clear watery fluid that was evacuated; but a glutinous, mixed, and

grumous matter: such as belongs to ovarian disease. No doubt could be entertained that the enlargement of the abdomen resulted from disease of that kind. Yet the umbilical region, when percussed, always rendered a hollow sound. Upon the death of the patient the mystery was solved. Air hissed forth from the opening made by the scalpel through the abdominal parietes: and the source of it being traced, an ovarian cyst, of considerable magnitude, was found adhering to the peritoneum in front of the belly, and containing no liquid, but some yellowish shreds only; the remains, apparently, of some smaller included cysts. This ovarian bag had been filled with air, and had given occasion to the equivocal sounds.

These sources of possible mistake or obscurity very seldom occur; and the physical diagnosis, as I have now pointed it out, is very sure and valuable. So completely physical, indeed, are these tests, that we recognize ascites by them as readily and certainly in the dead, as in the living body.

Other points of distinction may frequently be derived from the history and progress of the two disorders.

The equable enlargement of the abdomen, on both sides, in ascites; and its unequal prominence on one side in the early stages of ovarian disease; I have already mentioned.

Again, it is observable that in true ascites, there are almost always manifest indications of constitutional suffering and disturbance: a sallow complexion; debility; emaciation. The morbid accumulation results (as we shall see) from disease in some organ, of which the functions cannot be impaired without injury to the whole system.

Ovarian dropsy, on the other hand, may last long, and be extreme in degree, while the general health is scarcely affected. The very bulk and weight of the swelling produce, indeed, much inconvenience and discomfort; but, in other respects, the patient often remains in good health. This appears to be owing to the circumstance that the ovary is not directly necessary to the life or well-being of the individual, but is merely subservient, for a limited time, to the purpose of reproduction.

Among the symptoms that are common to ascites and ovarian dropsy in their advanced stages, are all those which are occasioned by weight and pressure: viz. shortness of breath, from the resistance opposed to the descent of the diaphragm; anasarca of the legs and thighs, from pressure upon the inferior cava and its branches; and a peculiarity of carriage and gait, like those of a woman big with child, and depending upon the same cause, the necessity of throwing the head and shoulders backwards, to balance

the weight of the distended abdomen in front.

It is necessary to caution you against mistaking a distended bladder for dropsy of the abdomen. An old Frenchman was brought into the Middlesex Hospital, afflicted (so his friends said) with dropsy. He had been treated for that complaint. The abdomen was large, and dull under percussion from the pubes to above the umbilicus. In the hypogastric region I could detect an obscure sense of fluctuation. I noticed a strong smell of urine about this patient. Being interrogated, he said that he had formerly had some "stoppage," but that he now passed plenty of water; that it even ran from him. It was obvious that his bladder was enormously distended, unable to contract upon its contents, and overflowing. With some difficulty a catheter was introduced, and some quarts, I forget the exact quantity, of turbid and stinking urine were drawn off. The patient sunk at length, and the bladder was found to be much diseased. I have known similar mistakes occur in private practice. You will not think the caution I am now giving you superfluous, when I tell you, on the authority of Sir Everard Home, that John Hunter once actually tapped a distended bladder, in the belief that the disorder was ascites.

Encysted dropsy, in the abdomen, is not always *ovarian dropsy*. *Omental dropsy* is described: the omental cavity alone being unfolded, and full of liquid. This I have never seen. Cysts containing a considerable quantity of a clear thin liquid, and connected with the *liver*, are common. Probably these are in all cases (they certainly are in many) the effects of the growth of hydatids. Dropsy of the *fallopian tubes*: dropsy of the *uterus*: large serous cysts in the *kidney*: constitute other forms of abdominal encysted dropsy. Such states must be discovered by their own particular circumstances. None of them are very common.

SOME REMARKS
ON
CERTAIN DISEASES OF THE EYE:
ILLUSTRATED BY CASES.

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[Continued from p. 503.]
(For the Medical Gazette.)

2. *Iritis*—Use of iodine and salicine in certain forms of it.

IN a former paper we examined certain morbid conditions of the conjunctiva and sclerotic; I next propose to

direct your attention to diseases of the iris. Although it would be foreign to our purpose to enter into a minute examination of the anatomy of this membrane, it may be necessary to remind the student that it is placed within the anterior portion of the globe, behind the cornea, and before the crystalline lens. It will also be important to remember, that the anterior surface is covered by a part of the aqueous membrane; at its outer margin it is nearly in contact with the cornea; in the centre they are removed to some distance from each other: this will become more evident when we consider that the iris is a flat membrane, and that the cornea projects. The iris is highly organized. It receives its supply of blood from the two long ciliary arteries, and also from the anterior ciliary vessels; the former, entering from behind, pass through the sclerotic, and are continued between it and the choroid, one being on the temporal, the other on the nasal side of the globe: piercing the ciliary ligament they divide into branches which, embracing the outer margin of the iris, anastomose, so as to form a large vascular halo, from the interior of which branches run towards the pupil, forming a second circle nearer to the pupil, and from these, in like manner, is formed a third circle at the margin of the pupillary opening. There is a very free communication between the vessels of the iris and those of the choroid and ciliary processes, and also with the minute vessels of the aqueous membrane.

The nerves of the iris, which are very numerous, spring for the most part from the lenticular ganglion. Two sets are formed, an interior and a posterior, perforating the sclerotic coat at its posterior part. An additional supply is also given to the iris from the nasal division of the fifth.

The anatomist will at once see that the above is only a very slight description of the anatomy of this membrane: it would take too much of the space of the MEDICAL GAZETTE to describe it more minutely, and it is sufficiently so to enable the younger student to trace the connexion of the several parts. This membrane has a highly important duty to perform in the function of vision, regulating the quantity of light admitted to the retina. I think the best anatomists are of opinion that the

structure of the iris is muscular, and I am certain that I have, with a powerful microscope, detected certain fibres distinct from those formed by the interlacing of blood vessels. Two muscles exist, one an orbicular muscle, surrounding the pupillary opening, and another radiating from the outer circumference of the former to the outer attachment of the membrane: by the action of the former the pupil is contracted, and by the action of the latter the pupil is dilated. Mr. Tyrrell remarks that "Mr. Dalrymple was kind enough to show him the muscular fibres of the iris under a powerful microscope, and," continues this writer, "has enabled me to compare it with other muscular fibres, so as to satisfy me perfectly of the structures being similar." Bauer, Monro, and also Maunoir, have described these muscular bands as seen by them, with the assistance of the microscope, and the latter has published a series of interesting experiments, which tend much to convince me of the truth of what he has written.

The student, in the present advanced state of this branch of surgery, will be surprised to learn that little was known of iritis in this country until the year 1800 or 1801. The attention of the profession was, if my memory serves me, first drawn to it by Professor Schmidt, who published some remarks "on secondary cataract and inflammation of the iris after the operation for cataract." The disease, however, is now well known, and, thanks to Dr. Farre, who first demonstrated the advantage of mercury, combined with opium, exhibited to the engendering of ptyalism, in every case of acute iritis, unless contra-indicated by the presence of some specific constitutional disease*. Let us now consider iritis—the symptoms of the disease, its causes, effects, and treatment. I propose, 1st, to divide iritis into acute, chronic, and

specific; 2nd, to offer some remarks on the treatment applicable to each; and, lastly, to illustrate the advantage of a certain class of remedies, by a brief detail of one or two cases.

1. *Acute Iritis*.—The symptoms of acute inflammation of the iris are too well known to require a very minute examination; nevertheless, I am perfectly satisfied that diseases of the eye are, by many practitioners, even in the present day, very imperfectly understood, and that many young medical men enter the field, armed with a diploma, who know little of the diseases of this important organ. Not long ago I was called to a case of acute iritis, in which nothing had been done, save the application of a blister to the temple, and the exhibition of a purgative. In this case the man was told "the loss of his eye was inevitable;" and so I thought, at the moment I saw him. The iris was contracted and discoloured, the pupil was filled with lymph, hypopion existed to some extent, and yet this man recovered sufficiently to see, not only to guide himself, but also to work at his trade, and in three months was comparatively well. After all that has been said and written about the operation for strabismus, what I am going to relate will hardly be credited. I was asked, a few weeks ago, by a surgeon in good practice, if "I had performed the operation for squinting?" Upon my saying nearly one hundred times, and that I found it to answer in many cases, although in some few out of that number it had failed altogether, he said, "Indeed! I have not done it yet: but I suppose you divide the nerve." Thinking this might be an error of the tongue—a lapsus linguae—I asked what nerve? The reply was, "The nerve running along the inside of the eyeball." After this I think we cannot better employ our time than by directing the attention of the student to an examination of certain diseases of the eye, and no young man of honourable feeling will be content to acquire that degree of knowledge that shall just, and only just, suffice to obtain for him his diploma; but he will go on in his interesting series of investigations until he has so studied the diseases to which man is liable, that he may be enabled, in every case, to employ the proper remedy. Permit me to make one other remark, which cannot

* The limits of this publication forbid a more extended examination of the anatomy and physiology of the iris. The student will, however, find every information in the writings of Vesalius, Merry, Haller, Ruysch, Winslow, Petit, Monro, Jourdan, Hovius Soemmering, Bichat, Bell, Young, Morgagni, Wrisberg, Lawrence, Dalrymple. If the anatomy of the eye be a favourite study, I may also mention the magnificent work of Zinn, "*Descriptio anatomica oculi humani iconibus illustrata*." In the LONDON MEDICAL GAZETTE, vol. xiii., some valuable papers, by Mr. Thurnam, of London, and Mr. Walker, of Manchester, on the physiology of the iris, will be found.

be foreign to this investigation. Great care must be taken in the examination of an inflamed eye; the examination must be conducted with the utmost care and gentleness, and in all affections of the deeper-seated structures of the eye, examinations should not be made too frequently, or the organ exposed to the irritations produced by a strong light beaming upon it, and this, too, after a previous exclusion for the last twenty-four hours. I have too often seen the evils of a rough examination of the eye; but I will prove my position by a much greater authority than myself. My friend, Mr. Middlemore, of Birmingham, in his truly valuable work on "Diseases of the Eye," mentions a case in which he had operated for cataract by extraction: the section had healed, and everything was going on very well. Ten days after this the case was shown to a surgeon, who handled it so roughly, that the patient cried out with pain, and Mr. Middlemore requested him again and again to desist, but not in time to prevent a more severe attack of inflammation, which immediately came on. Such things as these may appear unimportant to men who have paid but a trifling degree of attention to these subjects; nevertheless, each year convinces me of the necessity of attending to them. They are like the marks in the forest by which an American Indian discovers the passage of friends or foes. A broken branch, a torn leaf, a flattened blade of grass, are signs which an ordinary traveller would pass over without observation, but to the practised eye of a denizen of the woods they are alike certain and conclusive.

I trust I have sufficient love of science to lead me to desire nothing so much as the attainment of truth, and that I am not so vain as to suppose none of my views erroneous, but I feel it a duty to bring before my professional friends the result of my experience, that, by comparing notes with each other, we may in the end come to fixed and certain rules for the treatment of disease.

The symptoms of iritis will vary, of course, in proportion to the extent of the inflammation. More or less pain, with slight redness of the eye, announce the attack, and induce the patient to seek for the assistance of the surgeon. The degree of pain varies, and

is at times so slight, that the disease is allowed to make considerable inroads before we are consulted; vision may have become impaired, and objects are seen as though surrounded by a thick mist. At other times the pain is dreadful, and the forehead, side of the head, and face, suffer also; the globe is exquisitely tender, and the sclerotic coat soon takes on a diseased action. After dinner, or when in the recumbent posture, these symptoms increase; in fact, anything tending to augment the flow of blood to the part, tends to increase the disease.

As the disease advances, dimness gradually steals over the eye, and at last perception of light is altogether lost. The pain now increases; there is frequently an increased flow of tears, and a change in the colour of the iris.

The first change which takes place in the iris is a loss of its transparency, if I may so describe it; the brightness present in its healthy condition has disappeared, it appears almost without vitality, and, instead of reflecting, it absorbs the rays of light. The pupil becomes contracted, and if the iris was originally of a bright blue or grey colour, it turns to a dirty muddy green, and this arises from the formation of fibrin which is deposited on its surface. There is less change of colour in brown or hazel eyes. In such, Mr. Tyrrell says, "The iris acquires, in the last stage of the disease, a reddish brown tinge." I wish to remark, that in speaking of true iritis, I consider that the iris becomes affected in the first instance, and that the other organs, afterwards diseased, become so secondarily. In addition to the symptoms already pointed out, as marking the colour in the alteration of the iris, another appearance is mentioned by Mr. Middlemore, which I have not seen, but which he has twice detected. It is also pointed out by Beer, Conradi, and Robertson. "I have twice seen," says Mr. Middlemore, "the iris acquire a red colour during the existence of iritis; it has appeared as though rendered beautifully and uniformly red by the aid of some subtle injection; in each of these cases the opposite eye was of a blue colour." I imagine this is not a very frequent occurrence. I never saw it; and Mr. Middlemore, in his very extensive practice, only twice.

The best diagnostic mark of iritis is the zone of blood-vessels running near the circumference of the cornea, and placing round it what appears at first sight a belt of one uniform dull red colour. If this is examined a little more closely, the colour will be seen to vary, and found of a deeper hue as it approaches the cornea, gradually growing fainter and fainter as it radiates from the centre towards the circumference. It appears made up of many fasciculi of little minute vessels, filled with red blood, in the sclerotic tunic. Of course this halo of vessels will vary in colour in proportion to the severity of the disease and the particular stage of it.

It may, in the next place, be requisite to point out the marks by which inflammation of the crystalline capsule is distinguished from iritis. In the first place, the peculiar zone of vessels, already pointed out as the characteristic of iritis, is much less distinct, and the peculiar brightness of the iris is little affected: the pupil is not altered in form, and there is no intolerance of light. "If," says Mr. Middlemore, "the inflamed capsule is examined, it will be found slightly opaque in various parts; it will be irregularly dotted or marbled; veins or streaks of opaque matter in various degrees of distinctness will be present." If, then, we compare the symptoms of iritis with those of capsulitis, the former will be found much more severe. The patient experiences more pain, the iris is altered in form and in colour, there is a greater tension of the globe, and much more intolerance of light. We may remark, in addition, that the attack of inflammation of the capsule comes on gradually, and that it is not so easily remedied as iritis, by the exhibition of calomel. As it advances towards its second or third stage, the iris will participate in the disease, and it is, therefore, only to be distinguished from iritis in the first commencement of the attack. Guillie, in the *Dictionnaire des Sciences Médicales*, tome 26, p. 89, mentions this complaint, and draws a distinction between inflammation of the iris and inflammation of the capsule.

2d.—*Effects of Iritis.*—We have now considered, at some length, the symptoms of iritis; its effects are well marked, and will require but a very brief recital. We have pointed

out the dull appearance of the iris, as the disease advanced, the loss of its circular form, and also the alteration of colour in the iris, as well as the deposition of small flakes of matter (tubercles of fibrin) upon the surface of the iris, near the pupillary margin. This matter is at first of a light yellow colour, but subsequently acquires an orange or reddish brown aspect. The deposition of fibrin is sometimes so great that the anterior chamber is completely blocked up by it. In the worst cases some of the fibrin takes on a suppurative process, and pus is discharged into the anterior chamber: thus onyx is produced.

3rd.—*The causes of iritis* are various; idiopathic, traumatic, or specific. In the two former the constitution is not primarily affected. The idiopathic form of iritis is the result of those errors of the system which produce inflammation in other parts of the body, or in other textures of the eye. As a simple affection, it will be seen in persons under the age of puberty. The other causes of this complaint are local injuries—a blow upon the eye, injury to the eye in the various operations for cataract, a cut from the lash of a whip, from a wheat-ear in reaping, or a blow from the small branch of a tree. The worst case I ever saw was induced from a small piece of iron entering the cornea. In such cases a considerable degree of corneitis comes on, rendering the organ so cloudy that it is very difficult to ascertain the precise nature of the attack of the iris. In speaking of the specific forms of iritis, we must consider syphilitic inflammation of the iris, arthritic inflammation of the iris, inflammation of the iris in scrofulous children, and, for want of a better name, the last form of the disease must be examined as chronic iritis.

Treatment of Acute Iritis.—In a young and healthy subject, suffering from an attack of acute iritis the result of local injury, it is absolutely necessary to bleed, and bleed largely, guided more by the effects produced upon the system than the quantity withdrawn. I always order the patient to be bled, either standing or sitting up in bed, from a large orifice, and in eight or ten hours, if the disease is still advancing, the bleeding must be repeated. I think it worse than useless to apply leeches in the first instance, unless the attack

be of a chronic nature, or you may, perhaps, obtain ease for the patient during a few hours; but, as if to mock your efforts, and to laugh at the feeble resistance opposed to it, the disease returns with redoubled severity. After the abstraction of blood it will be prudent to give a purgative; five or ten grains of calomel, followed by a mixture containing Epsom salts and emetic tartar in peppermint water. I am satisfied of the prudence of this plan of treatment; the bowels are thus unloaded, and we have no hindrance to the subsequent measures which become necessary. After you have taken as much blood from the arm as you think advisable, leeches will not only be useful but necessary. The pain will also be lessened by fomentations with warm water, or opium and water. I find this lotion very useful.

R. Ext. Belladonnæ, ℥i; Tr. opii., ℥ij.;
Aquæ fervent. vi. ft. lotio.

The extract of belladonna must, from the first, be placed upon the eyebrow, or under the eye, for not only does it possess the power of preventing the contraction of the pupil, but even causes it to enlarge in some cases, after adhesions have taken place. It must, however, be remembered, that the application of eye-waters are of no use in the treatment of this disease, and are only used as a means of affording relief to the patient. I consider this one of the best for that purpose.

R. Morph. sulphatis, gr. ij.; Aquæ, ℥i.;
ft. lotio.

This lotion was first recommended by Dr. Charles Lee, of New York, and it certainly gives ease from the hot and burning sensations in and about the diseased organ.

The bowels freely opened, we must next proceed to employ that most valuable remedy, calomel; and this must be combined with opium, to prevent its acting violently on the bowels. It is very important that an effect should be produced on the system as quickly as possible. We may, therefore, order three grains of calomel and a quarter of a grain of opium, every three hours. And the effect may be increased by a portion of mercurial ointment being rubbed in every night. In very severe cases I have ordered a solution of emetic tartar every six hours, and consider the effect of the calomel has been

increased by it. As soon as the system has become affected with the mercury, a rapid improvement takes place in the eye; an extinguisher is placed, as it were, upon the disease; in a day or two the absorption of the lymph commences, and it is rapidly taken upwards. The power of vision slowly returns, and the irides, in time, assume the brilliancy of perfect health.

It will be quite impossible to conclude the examination of this interesting subject in the present number, and I must, therefore, leave it to a future number of the *MEDICAL GAZETTE*. The present paper would have been forwarded long ago, had not severe indisposition prevented the employment of my pen.

Jan. 1842.

[To be continued.]

CASE OF DEFOMITY FROM RHEUMATISM—OPERATION.

To the Editor of the Medical Gazette.

SIR,

IF you consider there are any points of interest connected with the accompanying case, your giving it a place in your valuable journal will oblige

Your obedient servant,

HENRY SYMES.

Bridgwater, Feb. 15th, 1842.

On the 2nd of December last, I was consulted by a young woman, named Edith Hearn, aged 24, from whom I obtained the following account:—In the summer of 1834 she became the subject of rheumatic gout, but up to that time her health had been unimpaired. It commenced in the balls of the great toes, soon making its appearance in the larger joints. Medical treatment had no control over the disease, and, at the end of 18 months, the elbow joints became fixed, and the knee joints so stiff and drawn up as to oblige her to use a stick; but this she was compelled to abandon altogether after a few months. From that period, up to the time when I saw her, she had been perfectly helpless, being obliged to be carried from place to place. I will briefly describe the condition in which I found the several joints. Shoulder-joints healthy, complete ankylosis at right angles of both elbow joints, knee-joints bent upon the thighs to an angle of 45 degrees, somewhat enlarged, and admitting of but slight

SOME OBSERVATIONS
ON THE
VITAL PRINCIPLE OF ANIMALS
AND PLANTS.

To the Editor of the Medical Gazette.

SIR,

I HAD intended to transmit to your excellent publication some remarks on the analogous *arrangement* and *mode* of *development* of animal and vegetable tissues, the consideration of which subject formed a stepping-stone to that of *life* itself, the "*principium et fons*" of organic phenomena.

Unwilling to intrude at too great length on your well-filled columns, I beg to place at your disposal a few brief remarks on the "*vital principle*," deferring the discussion of the former topic to another occasion.—I am, sir,

Your obedient servant,

JOHN COVENTRY, M.R.C.S.

Bell Cottage, Barnes Common,
Jan. 29, 1842.

1. D'Alembert, the celebrated French philosopher, has remarked, that man is sagacious enough to propose many questions which he has yet too little sagacity to solve.

The question as to the nature of the *vital principle* appears to me to belong to this category; and I venture on the following observations with no presumptuous view to the solution of so recondite a problem, but simply to shew, that, if the *vital phenomena* be irreferible to any natural agency, it is yet more philosophical to admit the independent existence of a *vital principle*, than to consider *life*, with some, the *result of organization*.

2. Man has most appropriately been designated the microcosm of creation; inasmuch as in his material economy we behold the consummation of every physical and vital *law* and property; whilst his mental endowments constitute him (reverentially be it spoken) the connecting link between *animals* and their *Creator*.

On the one hand, his body obeys certain physical and chemical laws, associating him with inert matter, the dust, whence he was taken. "The human body," says Dr. Spurzheim, "is composed of matter, which gravitates towards the centre of the earth; if un-

motion; the muscles of both legs atrophied (as might be expected), being merely skin and bone; the joints of the carpus and tarsus enlarged, and, to a great extent, deprived of motion.

From the circumstance of there being still motion left in the knee-joints, and as the chief obstacle to these joints performing their office seemed to reside in the contracted and rigid flexor muscles, and as the patient's general health had been improving for the last four years, I considered it a case suited for the subcutaneous section. Accordingly, on Tuesday, the 7th of December, I performed the operation in the usual manner (assisted by Dr. Parker, surgeon of this town), first dividing the semi-membranosus and tendinosus in the left leg, as they offered the greatest resistance, when the biceps became more upon the stretch, and the necessity for its division became apparent. The same muscles were divided in the right leg. On Thursday, the 9th, 48 hours from the operation, the wounds were quite healed, and splints, with the revolving screw, applied. I had the gratification of observing the legs straighten from day to day, and, on the 25th, 18 days from the operation, the apparatuses were removed, the legs being quite straight. From this time the patient sat up daily: friction and liniments, with having the legs frequently extended and fixed (which she was unable to perform herself, from the pain it gave her), formed now the plan of treatment.

Jan. 5th, 1842.—Has used crutches for the last few days, and is now able to bend her legs without any pain.

22nd.—Has gained great strength in her legs, so much so as not to require the use of stick or crutch. She can stand for a quarter of an hour together without feeling tired, and her walking daily improves.

Feb. 11th.—The patient can now walk very well and without fatigue; her legs have greatly increased in size and strength.

This case I consider interesting, from the present healthy condition of the knee-joints, after being in a contracted and quiescent state for so long a period (six years), and with especial reference to the consequences that have been produced in the other joints; likewise, from the short time occupied in the treatment.

supported, falls like any other inanimate object ; it possesses extensibility, a figure, and all the physical qualities of matter." On the other hand, man's affinity to the two great physiological kingdoms is evidenced by an analogous *vitality*—assimilative, perceptive, and reproductive qualities.

But whilst, in these respects, man partakes properties common to all bodies, organic and inorganic, he is *particularized* by the attribute of *reason* and a *moral faculty*, originally a ray of light (*Divinæ particula auræ*) from the *Deity* himself, the sun and centre of the ethical system.

The study of man's rational and moral constitution forms the object of other than physiological inquiries ; with *life exclusively*, as manifested through its organic medium, has physiology to do.

Hence some most distinguished cultivators of the latter science have been led to consider *life* the *result* of organization ; certain reasons against which position I shall now adduce.

3. Were life the result of organization, whatever tended to depress or impair the *latter* would *similarly affect* the manifestation of the *former*. But this is by no means generally the fact. True it is, that in certain diseases, and severe injuries to vital parts, the conservative influence of the *vis vitæ* is completely overpowered or altogether absent ; far more commonly, however, with organic lesion or functional derangement, the energy of the "*vital principle*" is increased, repairing the one, and rectifying the other. Hence its various synonymes, "*φύσις*" (Hippocrates) ; "*autocrateia*" (Stahl) ; "*vis medicatrix naturæ*" (Cullen.)

4. That no mechanical, chemical, electrical, or other natural agencies, can, under any conditions, engender life, all experience teaches : yet modified and controlled by the vital principle, these forces subserve most admirable and salutary purposes in the animal and vegetable economies ; proving at once the existence of a superior and independent power, peculiar to organized beings.

To attempt one illustration :—"The deprivation of the foetal blood '*in utero*' is now generally ascribed to *endosmotic attraction*. We have the requisite conditions for this process, in the presence of two fluids of different densities,

separated by an intervening membrane. Now the embryonic blood-globules being considerably larger than those of the maternal system, and the foetal blood itself denser, were endosmotic attraction, in a physical sense, the sole operating force, a state of *anæmia* to the mother, and *hyperæmia* to the embryo, would soon be induced*. The utero-placental circulation is, then, purely a physico-vital process.

5. A distinction has been drawn by the celebrated Dr. Chalmers, of Edinburgh, between the *laws* and *dispositions* of matter, which may serve, I conceive, to illustrate the mutual relations of life and organization.

Vitality, equally with matter, obeys certain fixed and immutable laws, of which the most important and palpable are the *laws of mortality*, in virtue of which every organized being increases, arrives at maturity, and decays ; and the *law of reproduction*, which regulates the reproduction of the species. In point of importance and universality of operation, these laws resemble the attractions and repulsions of physical bodies.

Now recent researches have rendered it extremely probable that fecundation is, in every instance, the result of the immediate contact of the parental rudiments ; the probability of spontaneous generation, even of the lowest animalcules, is daily diminishing, and the truth of Harvey's aphorism, "*omne vivum ex ovo*," growing more incontrovertible. It would seem that, synchronous with the encounter of the parental seminal elements, a *vital principle* is imparted to the ovum endowing the merest speck of entity, in form a nu-

* Endosmotic attraction, as is well known, is "an attraction exerted between two fluids of different densities, in virtue of which the denser attracts the more attenuated through an interposed membrane." Now Dutrochet, the learned and ingenious expounder of endosmotic phenomena, resorts to electricity to explain them. Finding that when the negative pole of a galvanic battery was connected with the less dense, and the positive pole with the denser fluid, the particles of the latter permeated the membranous partition, he concluded that endosmotic attraction was due to the opposite electrical states of the reacting fluids. With all deference to so illustrious an authority, it appears to me that the *electrical endosmose* effected by Dutrochet merely proved that certain electrical conditions were capable of superseding the normal operation of the laws of endosmotic attraction : the "*endosmosis*" of the denser fluid being in opposition to those laws. Moreover, is it not a natural property of porous structures to permit the transudation of more attenuated fluid particles, to the exclusion of those of a grosser character?

cleated vesicle, with a plastic quality, of which the result is *organization*. More correctly, therefore, instead of *life* being *the result of organization*, "*organization is the result of life*."

The *law of reproduction*, then, satisfactorily explains the *transmission* of the *vital principle*. But it is equally clear that no *law* could ever have *originated* either the principle itself, or the organism in which it resides.

The exquisite order of the universe is maintained by the law of gravitation; but this *law* could never have evolved from chaos the material economy. In other words, were the arrangements of our existent natural history destroyed, there is no power in the laws of our existent natural philosophy to replace them*.

The gist of the argument is, then, that, if vitality be the result neither of *organization*, nor of any *physical agency*, nor of the *operation of any material law*, we are bound to admit that *in the beginning* there must have been a distinct act of creative power originating the *first member* of each of the organic families—a lesson which both science and Scripture inculcate.

Having once set the machine in motion, the operation of the ordinary law of generation is in every respect adequate to explain its persistence; as in the physical world, having once admitted the intervention of the Deity in the exquisite collocations of matter, the law of gravitation is fully competent to preserve all its parts in harmonious adjustment.

PUERPERAL PERITONITIS.

To the Editor of the Medical Gazette.

SIR,

My object in addressing the following remarks to you, is, through the medium of your truly valuable journal, to lay before my professional brethren, more especially in this district, where the disease is now but too prevalent, the result of by no means a limited experience. Brief as they may be, I feel perfectly assured that if you will deem them worthy of insertion, they will not prove altogether undeserving of the attention of your readers. I must, however, premise that their recommen-

dation, even in my own estimation, is, that they have originated from actual observation.

It must be well known to the majority of your readers that the greatest diversity of opinion has existed as to the mode of treatment most efficient in this fatal malady. When, in addition to this undeniable fact, it is remembered that such variance is not confined to the young and inexperienced, but includes men whose names most justly command the respect of the whole profession, it is obvious that there must be some very strong ground for such difference. In what I am now about to write, I shall purposely avoid the mention of any of the names alluded to. In doing so, however, let it not be imagined that any disrespect is intended either to the memory of the dead or to the feelings of the living. Suffice it to say, that the advocates of both plans of treatment appear to me to have equally erred. How far this opinion is tenable the sequel must demonstrate.

That puerperal peritonitis, treated according to either of the plans most generally recommended, has proved very fatal, cannot be denied. That both plans have been successful, and both the reverse, is equally true. According to one man nothing but the lancet and its adjuvants can afford any hope of relief; whilst, according to another, it is death to let blood.

How is this incongruity between the opinions of men equally entitled to credit to be explained? Most easily.

The disease in question is met with in two very distinct forms, each of which requires a diametrically opposite course of treatment. I am fully aware that a distinction has been made in the writings of many authors upon the disease; but I am equally sure that it has not been sufficiently defined; nor do I presume to think that I can perfect that which is now so confessedly vague and unsatisfactory. All I hope for is, to call attention to this difference; and by so doing to lead every man, who has the requisite knowledge, to think for himself, and to act blindly on no authority whatever, however high or deserving of respect such authority may be. This, experience has convinced me, is the only course which can either conduce to the welfare of the patient, or to the credit of the conscientious and enlightened practitioner,

* Professor Robison, of Edinburgh.

in the management of any epidemic disease.

I shall now endeavour, as concisely as possible, to point out the difference between the two forms of puerperal peritonitis, and also the treatment adapted to each. This I will do without reference to the opinion of any writer on the subject.

Puerperal peritonitis has been divided into "inflammatory" and "congestive;" a distinction alikesimple and intelligible (if real), but, as every man of practical information on the subject will admit, deplorably inadequate to the correct diagnosis and effective treatment of this formidable and fatal disease. Something more than the difference between an inflammatory and congestive disease seems necessary to account for phenomena characteristic of the two forms of puerperal peritonitis. If proof of this be required, I appeal at once to the result of cases treated, and most confidently ask, whether, in any merely congestive disease, we could look for the sudden and fatal effects of depletion from the system in that which I shall now presume to designate the *specific* form of puerperal peritonitis. I conceive not; and would further add that, when I admit the existence of such disease, I am also persuaded that many cases have been deemed inflammatory, and treated accordingly, where a little scrutiny would have proved that no inflammation existed; but, on the contrary, the "morbid sensibility" of the truly philosophic Dr. Billing, and the accuracy of which I have more than once proved by the exhibition of a full dose of Dover's powder (prior to the general use of morphia), or opium, with ipecacuanha and camphor. This has been further proved by the effect of one unnecessary abstraction of blood from the system, in consequence of which I have seen more than one patient rapidly sink, notwithstanding the most unremitting efforts to excite reaction. Again, I have seen cases reputed to be puerperal peritonitis, the whole symptoms of which have been speedily removed by tepid injection of water, and the expulsion of coagula thereon. To the man conversant with obstetrical subjects, it is unnecessary to say more, but to him who has, as is too often the case, despised this most important department of medicine, I would suggest the propriety of advising with some

one, who, from actual practice, may be able to help him to a diagnosis, prior to ordering a lancet to be plunged into the arm. The above, though apparently a digression, I consider highly necessary, and for the following reason.

It is requisite, in the first instance, to determine whether inflammation exists at all; and this being ascertained, whether it be of the active or common kind, or that which, for want of a better title, I have called *specific*.*

On each of these I shall now offer a few suggestions, which are the result of my own experience and most careful observation.

First, of the active or common form. I have never seen a case of puerperal peritonitis in which the lochial discharge was not either diminished, irregular, or suppressed. The same remark applies to the secretion of milk. Skin hot; pulse frequent, varying from 98 to 140, hard or vibratory, and incompressible. There has generally been more or less pain of head, sometimes with effusion of the eyes, and intolerance of light; pain of abdomen, frequently confined to the pelvic region, and increased on the slightest pressure: at other times the pain is diffused over the whole abdomen. The bowels are generally constipated. The urine diminished in quantity; thirst urgent. In short, the constitutional disturbance very closely resembles that of ordinary peritonitis. As to the treatment it may be briefly remarked, that nothing but the most prompt and vigorous antiphlogistic measures hold out the least prospect of benefit. In such cases, when seen soon after their commencement, the lancet may not only be used with the utmost confidence, but may be again employed after the lapse of a few hours, if the symptoms be not mitigated, and leeches may be applied should the patient's strength render further depletion hazardous. It is hardly necessary to add that calomel, purgatives, antimonials, &c. will be necessary to secure the advantage which may have followed active depletion. Blisters have been much praised by some practitioners, but I confess myself rather sceptical as to the degree in which they are useful, and have even been led to think that in some cases they have proved injurious.

* Might not the term *adynamic* be more explicit?

In what I have termed the *specific* form of puerperal peritonitis, the attentive observer will not recognize those decided inflammatory symptoms which characterize the *common* disease. The countenance in these cases is almost always inexpressibly anxious and depressed; the eyes dull, and frequently sunk in the orbits; pain of head; skin little, if at all, above the natural temperature, frequently below it; and generally covered by a clammy moisture; pulse small, frequent, very compressible, irregular, or intermittent; heat and uneasiness of abdomen, rather than the acute, well-defined pain, of peritonitis. From the very commencement this form of the disease presents the most unequivocal indications of prostration of the vital powers, and the patient soon sinks. Delirium seldom exists, although patients sometimes talk a little incoherently. Intellect generally unimpaired up to the very period of dissolution.

The treatment of this case is the very reverse of the former. Even at the commencement general depletion is, so far as I am able to speak, positively inadmissible; and leeches require caution in their application: they should only be employed where the abdominal pain is urgent, and the pulse tolerably steady. Calomel, opium, camphor, ammonia, wine and brandy, are the remedies which, when judiciously exhibited, afford the best chance of relief. Turpentine enemata, and friction over the abdomen with warm turpentine, are highly useful. When great tympanitic distension is present, assafoetida may be added to the turpentine with the happiest effects.

To enter into more minute detail is out of the question in a letter like the present. It only therefore remains for me to apologize for so far trespassing on your valuable time and space, and to subscribe myself,

Your obedient servant,
GEORGE FIFE, M.D.

Newcastle-upon-Tyne,
Feb 7, 1842.

CASE OF PROTRACTED LABOUR.

To the Editor of the Medical Gazette.

SIR,

SHOULD you deem the following case of protracted labour, arising from a

large polypus of the uterus, worthy of a place in your journal, you will oblige me by inserting it.

I am, sir,

Your most obedient servant,

ROBT. ROBERTSON, Surgeon.

Aberdeen, 29th January, 1842.

Mrs. L., the mother of six children, was taken in labour of her seventh child, on the evening of the 26th December last, and was attended by a midwife. In her two former confinements she had required the assistance of the forceps before she was delivered; both children did well, and are still living. On the evening of the 27th December, about 11 P.M., I was sent for, and was informed by the midwife in attendance that the membranes had ruptured in the morning, that the patient had considerable difficulty in making water, and that she could not make out the presentation, nor feel the os uteri, and that she had latterly lost a good deal of blood. On making an examination, per vaginam, I felt a large fleshy mass filling up the os externum and outlet of the pelvis; but on trying to get up my fingers, I found that no part of the foetus could be felt. The pains were strong and forcing, the patient restless, skin hot and pulse quick, great thirst, and prostration of strength. I ordered the midwife to introduce the catheter, and relieve the bladder, and then to give her an enema. I then left her for an hour, determined afterwards to act according to the urgency of the symptoms. I again visited her about one o'clock A.M., 28th: found that a considerable quantity of urine had been drawn off by the catheter, of a very turbid quality, and the bowels opened by the enema: the patient still very restless, and suffering considerable pain. Made another vaginal examination, and to my utter astonishment I found the large fleshy mass, about the size of a child's head, almost expelled, and could get up my fingers to some distance between it and the sides of the pelvis, and found it hanging by a long, thin pedicle, which ascended a long way up beyond my reach. I pinched it, but it gave no pain. The head of the child presented. I therefore concluded, in my own mind, that it must be a polypus; and as it seemed now inclined to advance, I waited for a short time, when it came further down. I then removed it with

the knife. In a very short time afterwards the foetus was expelled; a fine, plump, healthy male child, at the full time, the placenta immediately following. Nothing unusual took place afterwards, except rather a freer discharge than usual, which was restrained by administering several doses of the ergot of rye. The patient, at this date, is up, and attending to her usual domestic affairs, without any bad symptom whatever. She has since informed me that she used to be frequently attacked with severe discharges of blood from the vagina, both while pregnant and nursing, and has for several years had very bad health; was subject to anasarca swelling of the legs and body, loss of appetite, &c.

REMARKS.—This case appears to me one of a very interesting character; in so far that it shows that pregnancy may take place, and the woman go to the full time, notwithstanding that she has got a large polypus hanging from the uterus, and attended all the while with considerable discharge—circumstances which *a priori* would lead us to anticipate a contrary result. I deemed the application of a ligature on the stalk of the tumor unnecessary, as the pressure of the child, while passing, would prevent hæmorrhage during the birth, and I trusted to the contractions of the uterus, under the command of the ergot, for her future safety, all of which turned out in this case as I expected.

CASE OF ANEURISM
OF THE
SUPERIOR MESENTERIC, CÆLIAC,
AND AORTA.

BY JAMES DOUGLAS,

Lecturer on Anatomy in the Medical School,
Portland Street, Glasgow.

(For the Medical Gazette.)

DR. J. A. WILSON, in the recently published volume (xxiv.) of the Medico-Chirurgical Transactions, relates two cases of aneurism of the superior mesenteric artery. He mentions that his father (whose lectures before the College of Surgeons are so well known) used to state, that he had not met with but one case of aneurism affecting any of the great branches of the abdominal aorta; and that this occurred in the left hepatic artery, which

is a branch of the cæliac axis. Perhaps my case may meet the eye of the author, as well as interest the readers of the MEDICAL GAZETTE.

John Fyfe, æt. 43, porter, admitted into the Glasgow Royal Infirmary, Dec. 20, 1833. Complains of general weakness, and inability for exertion. If he walks or makes any exertion soon after taking food, it is rejected by vomiting. No pain is excited by pressure. He complains also of being breathless, yet respiration seems pretty good. Action of heart is rapid, and rather violent, heard over both sides of back; and ventricular contraction is accompanied by bellows-murmur. Pulse 100; respiration 28; tongue white; bowels slow; perspires much.

He was bled to six ounces, and had digitalis, with the view of reducing the action of the heart. A week after admission his legs became anasarca, and, soon after, his whole body. The usual routine of treatment was gone through without relief. On March 2d, seeing that the symptoms were becoming aggravated, and that we should soon have an opportunity of verifying the diagnosis, I made the following careful examination.

Action of heart for the first time observed to be irregular. Pulse 60. *Impulse of the heart very strong*, raising the head from the chest, and felt strongly over a space of about three inches square. First sound protracted, and accompanied with some bellows-murmur; second sound scarcely audible. Sounds heard loudest, and impulse felt greatest, under cartilages of ribs, less under sternum; also heard pretty distinctly on both sides of back. Carotids are *seen* to pulsate as far as angles of jaw. Diagnosis, hypertrophy of left ventricle, with considerable dilatation.

On the evening of the 4th March he fell down when in the water-closet, and expired soon after being carried to bed.

Inspection.—On removing *dura mater*, a quantity of blood was found effused over anterior part of right hemisphere of cerebrum. The right lateral ventricle was filled with coagulated blood, but no ruptured vessel could be detected.

The heart was *very slightly, if at all, hypertrophied*. Lying exactly behind the heart was discovered a large aneu-

rism, springing from the posterior part of the thoracic aorta. The sac measured about $4\frac{1}{2}$ inches long by $3\frac{1}{2}$ wide, extending from the 7th to the 11th dorsal vertebræ, and communicating with the aorta by a circular opening, about an inch in diameter, with a thick rounded edge, exhibiting a duplicature of all the coats. They were all traced over the sac to near the back part, where the 8th, 9th, and 10th dorsal vertebræ were in contact with the blood, and deeply absorbed. A large laminated coagulum had here been deposited.

Below the sac, the aorta, which passed in front, was contracted, and about an inch further down, immediately on passing the diaphragm, gave origin to a small globular aneurism, above $1\frac{1}{2}$ inch in diameter from its forepart, by an orifice twice the size of a common quill. This was a true aneurism in its whole extent, consisting, in fact, of a dilatation of all the cæliac axis. It also contained a coagulum, partially filling it up.

On the origin of the superior mesenteric artery there is another small globular aneurism, about the size of a walnut, consisting, like the preceding, of a dilatation of all the coats. There was not, during life, any symptom which might have led to a suspicion of the existence of either of these small aneurisms. The preparation is marked D 33 in my museum.

I do not remember to have read of a case of aneurism in the chest leading to exactly the same mistake in the diagnosis, as the one which I have now related. It is quite obvious that I was authorised to make the diagnosis which I did, by the presence of all the *physical signs* of hypertrophy with dilatation. There was the violent impulse for the hypertrophy, the widely-heard sound for the dilatation, the bellows-murmur for the disproportion between the dilated ventricle and its outlet, which remained of its natural size. The increased impulse of the heart depended, of course, on the heart's being tilted forward by the pulsation of the aneurism directly behind it; while the sound heard over the back was derived from the same source. The case strengthens the opinion of those who believe that there is no certainty in the diagnosis of thoracic aneurisms, unless they can be either seen or felt.

REPORTS OF CASES OCCURRING IN PRIVATE PRACTICE.

To the Editor of the Medical Gazette.

SIR,

REPORTS of cases treated at hospitals and dispensaries are occasionally published in your valuable journal, but I do not recollect of having seen any detailed account of the cases which occur in the private practice of medical men. I consider that if the members of the profession would take the trouble of noting down the cases of disease which are presented to them in the course of their practice, and getting the results published at certain periods, a most important step would be made in the advancement of medical statistics. No doubt we have elaborate reports from our different hospitals and dispensaries, but the results obtained from these sources can only convey a very inadequate notion either of the amount of disease, the relative frequency of different diseases, the comparative salubrity of localities, or the relative amount of mortality.

To arrive at anything approaching to an accurate conclusion on the important topics involved in medical statistics, practitioners must adopt means similar to what I now recommend.

The duty of a medical man is surely not confined either to assiduous attention at the bed-side of his patients, or to the perfecting of his own mind in the scientific and practical knowledge of his noble profession. No, his duties are of a much more extensive character; he is not only bound to observe for his own improvement, and the advantage of his patients, but also to promote the diffusion of any knowledge which he may possess, in order that suffering humanity, from "Indus to the Pole," may be relieved. At the same time, he is bound to use his every effort to advance the profession which he has embraced. I admit that medical men are not equally qualified to advance their profession. Among them, as well as among every other class, we find different shades of mental capacity. Few have the intellectual powers of a Hunter or a Cooper. Though many may be deficient in high mental endowments, yet there is a way in which, I maintain, every one can, less or more, advance medical science:

that is, simply by recording carefully the cases of disease which come under his notice, and placing the results of his observations on record. I would merely allude to the happy effect which has resulted from the adoption of this system in the army and navy. This is indeed the way in which every one who has attained to any eminence in the profession has acted. I doubt not but that many at the present day avail themselves of this powerful means of improvement; few, however, take advantage of the many opportunities they enjoy, to make their observations known; consequently, the benefits to be obtained from their experience is lost to the profession. Being convinced that the publication of such reports as the following must prove highly, advantageous in the advancement of medicine, particularly medical statistics, I have been induced to solicit its insertion in the MEDICAL GAZETTE, in the hope that this small and imperfect commencement will have the effect of

causing others to adopt, in a more powerful and satisfactory manner, the simple plan which I have here brought under their notice.—I am, sir,
Yours most obediently,
JOSEPH BELL.

Barrhead, Feb. 1842.

The following tables contain all the different diseases which occurred in my practice from 1st Nov., 1840, to 1st of last May. In the first column I have placed the number of cases; in the second the recoveries; in the third the number who were not cured (in some instances relieved, and in others made no better); and in the fourth column will be found the number of deaths.*
The method of classification which I have adopted may be considered unphilosophical; I admit that to a certain extent it is so; but I am not acquainted with any other system to which similar objections may not be urged.

Epidemic and Contagious Diseases.

Name of disease.	No. of cases.	Recoveries.	Not cured.	Deaths.
Typhus fever .	84	80	0	4
Pertussis . .	23	19	0	4
Scarlatina . .	21	20	0	1
Variola . . .	9	6	0	3
	137	125	0	12

From the above table it will be perceived, that typhus fever held a very prominent place among the diseases which came under my notice during the period mentioned. The cases which occurred in November were very slight, but the disease became much more severe during December, and the succeeding months. The following is a brief statement of some of the leading phenomena which it presented. The pulse varied from 70 to 140 in the cases in which recovery took place: its frequency, however, had no relation either to the severity or duration of the attack. Seventy-six of the patients had headache; but in 52 cases it subsided from the fourth to the sixth day. Seven were delirious from the fifth day; of these one died. Eighty-two complained either of pain or tenderness on pressure at epigaster. Respiration varied from 28 to 55 per

minute; its frequency held a very exact relation to the severity of the attack. The skin was generally hot, pungent, and dry; but in some instances there was not much increase of its temperature. In 27 cases it was covered by a copious eruption of red maculæ†, and by a less profuse one in nine other instances. The eruption did not always

* We regret very much that our confined limits compel us to omit all the tables except that of epidemic and contagious diseases. We shall, however, give the remarks made upon other diseases, and which follow those on fever.—ED. GAZ.
† In two cases the face was covered, as well as the rest of the body, with a very extensive eruption of florid spots. I mention this here, as Dr. Corrigan, of Dublin, in his Clinical Lectures published in the MED. GAZETTE for April 9th, 1841, states that the maculæ of fever never make their appearance on the face; and that by this means we can always distinguish between them and the eruption of rubeola. I recollect of having seen the fever spots on the face in another instance besides the two mentioned.

make its appearance at the same period of the disease; but generally speaking, it was observed on the fifth or sixth day. Petechia occurred in 2 cases, and in 3 there was sloughing about the nates and shoulders. There was slight bronchitis in 55 instances, but it disappeared in the course of the disease. In every case there was disordered alvine secretions. The average duration of the disease was 18·7 days till convalescence took place. The treatment consisted principally in keeping the apartment cool, shaving the head, keeping the bowels open by gentle laxatives and enemata, the occasional use of stimulants, and the application of counter-irritants and leeches to abdomen. Alleviation of the symptoms in every case followed the use of these latter means, particularly the local depletion, the effects of which were frequently very striking. I will quote a few cases as examples of this mode of treatment, which is often criticised, but seldom practised in this country.

CASE I.—Dec. 10, 1840. Mrs. M—, æt. 36; a native of Scotland. She is of a weakly habit; complains of exhaustion and headache; countenance anxious; face flushed; mucous membrane of lips very red; tongue red at tip and margins, covered in centre with a brownish fur; thirst urgent; pulse 108; respirations 36 per minute; skin hot and dry, and about chest and loins there is an eruption of red spots; much tenderness of epigaster on pressure; nausea; has been troubled with aching pains in the lower extremities for the last five days. When complaints commenced, they were ushered in by rigors, lassitude, pain of loins, but these have now subsided. Bowels have been freely moved by Sulph. Magnes. Catamenia regular.

Abrad. Capit. capill. et admov. lot. gelid. assid. Admov. Hirud. xij. epigas. postea fovet. To have her body sponged with tepid-water morning and evening.

11th.—Passed a good night; leeches bled well; headache gone; thirst less; pulse 80; respiration 26; tenderness at epigaster relieved; skin cool and moist; two dejections of a dark colour; urine high coloured, but of natural quantity.

Cont. lot. Capiti.

19th.—She is quite convalescent to-day, having had no aggravation of complaint since the 11th.

CASE II.—Dec. 18, 1841. P. M., æt. 27, a native of Ireland, a stout active man; complains of severe headache; pain of loins; rigors; face flushed; eyes red and

suffused; tongue dry and furred; very thirsty; skin dry and hot; pulse 98; respiration 34 per minute; considerable tenderness at epigaster; feels very weak, particularly about joints of lower extremities; bowels costive; complaints commenced yesterday morning, with shivering, nausea, pains of head and back. His wife is convalescent from maculated fever.

Abrad. Capit. capill. et admov. Hirud. xvi. epigast. postea Cataplasma. Emoll. Habt. Pil. Aloet. ij. 6ta q.q. h. don. alv. respond., et habt. enema vesp.

19th.—Leeches bled well; bowels freely moved; headache completely subsided after the application of leeches; no tenderness of epigaster; pulse 68; respiration 29; skin hot, but moist; he feels much better; tongue less furred, and thirst abated. This case went on most favourably; not a single bad symptom arising: there was a distinct eruption for several days. On the 30th of December the following note was taken:—Improvement has gone on rapidly for the last four days; he is able to walk about house; appetite good; tongue, skin, and pulse, natural.

CASE III.—Jan. 21, 1841. J. C. æt. 23, a robust young man; complains of severe headache, and pains throughout body; great tenderness at epigaster and surface of abdomen; skin hot and dry; face flushed; tongue red at tip and margins, covered in centre and at root with a dirty yellowish fur, having a brown strip in middle; thirst urgent; pulse 120; respiration 38; sleeps badly; is delirious. Bowels have been immoderately purged with Sulph. Magnes. Ol. Ricini, et Sennæ. Urine high coloured and scanty. Complaints commenced about eight days ago. He was at first seized with rigors, headache, pain of back, nausea, and anorexia, which still continue. Was recently in the habit of visiting a friend ill of fever.

Admov. Hirudin. xij. epigas. postea Catap. Emolliens. To have his head shaved, and cold lotions applied; and to get his body sponged with tepid-water twice daily.

22d.—Leeches bled well; headache gone; slept some time during night; pains of body gone; pulse 102; respiration 24; skin cooler; tongue cleaner, and less thirst; bowels easy; one dark-coloured dejection; urine high coloured, and deposits a copious sediment.

Habt. Enema domest. vespere.

24th.—Has continued to keep better; slept well last two nights; incoherency almost gone; pulse 100; respiration 26; skin moist; urine less high coloured; less sediment deposited; bowels easy.—Cont.

26th.—Was more restless last night;

incoherency increased; some petechial spots on body and extremities. On inner side of left knee there is a livid patch the size of a halfpenny; one of similar character on right leg, and one as large as a crown piece on nates. Pulse 126; respiration 30; considerable abdominal tenderness; tongue more furred, and very dry; no headache; scalp moderately warm; slight subsultus; no dejection.

Admov. Sinapism. sat. magn. abdomen.
Enema purgans vespere.

26th.—Sinapism caused considerable irritation of abdominal integuments; enema operated freely; feels much better; subsultus; abdominal pains and incoherency gone; pulse 96; respiration 27; spots on legs and nates becoming black; tongue cleaner; thirst abated; slept well during night; skin cool and moist.

Repet. Enema vesp.

28th.—Is making rapid improvement; spots alluded to in last report commencing to slough; pulse 76; respiration 19; tongue clean; appetite returning.—Pergat.

No relapse took place; the sloughs separated in a few days. I may mention, that them other, two sisters, and a brother of this patient, were all seized with the disease. Three of them had a very copious eruption of red maculæ. The same treatment was adopted with equally good results.

CASE IV.—Feb. 8, 1841. A. S.—, æt. 44; a weakly female; dark complexion; countenance much flushed; eyes red and suffused; complains of great exhaustion; severe headache; pains and weakness in lower extremities; nausea; thirst; mucous membrane of lips red and parched; tongue covered at root and centre with brownish fur; is very dry and chopped, red at tip and margins; rigors, but not severe; pulse 118; respiration 38; has a slight cough, with mucous expectoration. Percussion of chest normal, but sonorous rales are heard over right side of chest; skin hot and dry; considerable tenderness at epigaster, amounting to pain on pressure; bowels said to be costive; catamenia regular; urine scanty and high coloured. Complaints commenced three days since, but cough is of considerable duration. Her sister is recovering from an attack of typhus.

Admov. Hirud. x. epigas. postea. Catap.
Emoll. Habt. Pil. Aloet. q.q. don. h.
alv. respond. Habt. Enema vesp. To
get head shaved, and to have her body
sponged with tepid-water twice daily.

9th.—Leeches bled well; enema operated freely; she feels much relieved; headache gone; thirst less; cough easier; tongue cleaner; pulse 84; respiration 20; tenderness of epigaster almost gone; some appetite.

Admov. Sinapism. epigas. Repet. enema.

11th.—No complaint but debility; pulse 76; tongue clean; appetite good.

R. Sulph. Quin. ʒj.; Tincturæ Aurant.
Syrup. Aurant. aa. ʒij.; Aq. Puræ,
ʒxv.; Acid. Sulph. Dilut. ʒi. M. ft.
Mist. cuj. capt. ʒj. t. d.

CASE V.—Feb. 9, 1841. W. S., ætat. 18 years, brother to A. S.; complains of severe headache; flushed countenance; eyes suffused; lips red; tongue red at tip and margins, white in centre, it is tremulous; thirst severe; skin hot and dry; pulse 96; respiration 32; puerile respiration; slight cough; percussion elicits no morbid sound; very considerable oppression at epigaster, which is painful on pressure; pain and feebleness of joints; bowels open; urine high coloured. About six days ago he began to complain of lassitude, languor, nausea, shivering, pains through long bones: has been confined to bed for three days.

Admov. Hirudin. xv. epigast. postea
Cataplasma. Emoll. Abrad. Capit. Capill.
et admov. lot. gelid. Habt. enema. vesp.

10th.—Leeches bled well; headache relieved, but not gone; pulse 84; face continues flushed; less oppression and tenderness at epigaster; pains of joints gone; no dejection; enema not given.

Repet. Hirud. et habt. Pil. Aloet. ij.
6ta q.q. hor. donec. alv. respond.

11th.—Twelve leeches bled well; headache gone; thirst less; pulse 86; respiration 24; skin cooler; tongue white; tenderness of epigaster gone; bowels opened twice; slept some.

Habt. Enema. vesp. Intermitt. alia.

On the 15th he had no complaint but weakness; his appetite was tolerable. Attendance discontinued.

CASE VI.—March 6, 1841. J. M.—, æt. 29, a stout man of ordinary stature; complains of severe headache; rigors; thirst; face is flushed; scalp hot; tongue furred and dry; skin hot and dry; no tenderness at epigaster; nausea and anorexia; pulse 106; respiration 28; pains of loins and limbs; weakness and lassitude; bowels have been freely moved by castor oil. Complaints commenced two days since with languor, shivering, and headache.

Admov. Hirud. xvij epigaster. postea
Catap. Emoll. Abrad. Capit. capill. et
habt. pediluv.

7th.—Leeches bled well; headache gone since they were applied; pulse 72; respiration 22; skin cool; nausea gone; free from pain; thirst abated; no dejection.

Habt. Pil. Aloet. ij. 6ta q.q. h. d. al. resp.

8th.—Free from complaint except weakness; pulse 68; tongue clean. No further attendance.

CASE VII. — March 5, 1841. John Simpson, æt. 30; complains of severe headache; pain of back, and of joints of lower extremities; face flushed; tongue red at tip and margins, covered with a dirty yellow fur at centre and root; thirst; skin hot; nausea; pain at epigaster, increased on pressure; pulse 118; respiration 42; bowels said to be regular; dejections dark-coloured; urine scanty and high coloured. Felt unwell two days ago; he then was seized with weariness and shivering, which still continue, though abated in violence.

Has taken ʒij. Sulph. Magnes. No other treatment.

Admov. Hirudin. xvij. epigaster. postea Cataplas. Emoll.—Admov. lot. gelid. capiti, et habt. pediluvium.

6th.—Seventeen leeches sat and bled well; headache gone; pain at epigaster gone; thirst less; tongue clean; pulse 72; respiration 22; no shivering; slept well during night; no passage from bowels.

Habt. Enema. domest. q. p.

7th.—Bowels opened; has no complaint; is able to be out of bed; skin, tongue, and pulse, natural. Attendance discontinued.

CASE VIII. — March 27, 1841. John M'L—, æt. 22, a stout, tall, young man; complains of weakness; headache; thirst; pain of loins and of long bones; sickness; nausea; his face is flushed; eyes red; tongue furred and dry; pulse 120; respiration 42; skin hot; tenderness of epigaster and left side of abdomen on pressure; bowels open; urine not examined. Complaints of four days' duration; were ushered in by rigors, nausea, headache, sleeplessness.

Admov. Hirud. xv. epigaster. postea Catap. Emoll. To have head shaved, and to get a foot-bath.

28th.—Passed a good night; leeches bled profusely; headache gone, as is also epigastric tenderness; pulse 104; respiration 28; skin cooler; tongue moist, and less furred; thirst less; one dejection.

To have body sponged with tepid-water, and head kept cool.

30th.—Is continuing to improve; pulse 86; respiration 19; skin natural; tongue clean; appetite returning; bowels open. No relapse.

CASE IX. — April 19, 1841. Peter M'C., æt. 19; complains of headache, and pain of long bones and loins; feels very weak; nausea and vomiting; face flushed; scalp hot; lips red and parched; thirst; tongue very much furred and dry; eyes red; pupils slightly dilated; pulse 120, weak;

respiration 36; skin hot; restlessness; nervous twitching of arms; slight delirium; no appetite; pressure over epigastric region causes uneasiness, but not pain; bowels have been twice moved during the night; urine high coloured and scanty. Was seized three days ago with rigors, nausea, anorexia, and pains of bones, head, and back: had been a few days previous in a house where there was a fever patient.

Admov. Hirud. xij. epigas. postea Cataplas. Abrad. Capit. capill. et admov. lot. gelid. habt. pediluvium.

20th.—Leeches bled well; relief of all his complaints followed their application; pulse 108; skin cooler; no delirium; restlessness gone; inclines to sleep; over lower part of abdomen, about loins and breast, there is a copious eruption of red spots; no dejection.

Habt. Enema. ep. Cont. alia.

This patient had no return of his complaints, and on the 23d was able to sit up.

[To be continued].

ON THE EFFECTS OF SHOCKS UPON THE HEAD.

By THOMAS HAWORTH, M.D.

(For the Medical Gazette.)

THERE are some effects which necessarily arise from shocks or rapid motions of the head, which, as far as I know, have not been hitherto noticed. Though the substance of the brain is incompressible, yet it is certain that its volume may be diminished by pressure. This diminution is at the expense of the capacity of the blood-vessels, the sides of which are brought together by the pressure, and their contents expelled from the cranium in consequence of its unyielding materials.

When the head is suddenly thrown into rapid motion, as by a blow, or when, while in rapid motion, it is suddenly arrested, as occurs in a fall, the vis inertia of matter comes into operation. In the case of a blow the brain will have a strong tendency to remain in the same place, and the cranium to proceed onwards in the direction of the blow; in the case of a fall, the reverse will take place at the moment of its being arrested: the brain will tend to continue the fall, after the cranium is at rest. The effects which must result from this discrepancy are very obvious. If the blow be sufficiently violent, or the fall from a sufficient height, the brain

will recede from the parietes of the cranium at that part diametrically opposite to the external injury. There is nothing to oppose this separation; it is a necessary consequence of a physical law, and its extent depends upon the quantity of blood expelled from the cavity of the cranium by the virtual pressure which the brain undergoes at the point of separation.

At the moment of the shock a vacuum is formed; its duration, however, is probably but for an instant, as either the brain resumes its former volume, in consequence of the circulation of the blood being restored, or the vacuum is filled by extravasated blood or halitus, or it is possible by gas emitted from blood.

This explanation of the effects of injury of the head is confirmed by the following facts. Several eminent surgeons, as Littre, Sabatier, Delpech, and Richerand, have found the mass of the brain very much reduced in volume in cases of severe concussion. Littre relates a case in which there were no marks of violence either within or without the head, except that the brain was far from filling the cranium, and was much more dense than usual. The increased density was no doubt owing to the expulsion of the blood. Sabatier gives a case in which there was a manifest interval between the brain and dura mater. In these cases the brain must have retired upon itself, not on account of any external pressure upon it, but in consequence of its vis inertiae, or its tendency to remain in the same state, whether moving or at rest.

The seat of extravasation is very frequently diametrically opposite to that of the external injury. This is just in accordance with our theory, for we have shown that it is there where the brain recedes from the cranium. When the effusion takes place immediately underneath the external injury, it is then the result of direct mechanical violence causing the rupture of blood-vessels.

Extravasation may occur, without any accompanying injury of the cranium, from falls upon the feet, buttocks, or any other part of the body; all required for its production being a sudden change from rest to rapid motion of the head, or from rapid motion to rest.

The blood may be effused between the skull and dura mater, upon the

arachnoid, in the substance of the brain or in the ventricles. The pressure of the atmosphere will force an extraordinary quantity of blood into the vessels in the neighbourhood of the vacuum at the moment of its formation. Distension, rupture, and effusion, become natural consequences, just as blood may be sucked out of the gums by making a vacuum in the mouth.

If the vacuum should remain but for an instant after the completion of the violence, there would be a general rush of blood to the whole brain, caused by the atmospheric pressure acting upon the blood-vessels which pass from without to within the skull. This may be followed in some cases by rupture of vessels in any part of the brain, even in places remote from the vacuum.

The bleeding from the nostrils and ears, occurring in injuries of the head, may be attributed to the expulsion of the blood from within the head.

The possibility of a vacuum being formed within the cranium cannot be denied. A fall from the roof of a house must communicate to the brain a momentum quite sufficient to overbalance the weight of the atmosphere; and there is no difficulty in believing that a rapid movement caused by a violent blow might have the same effect; at least there is no doubt that it would produce a tendency to a vacuum, which, to a certain extent, would be followed by the same consequences as though it were a pure vacuum.

In cases of simple concussion we may suppose the brain to subside, and afterwards to resiliate, without effusion of blood; the natural circulation having been restored.

So far the substance of my thesis: I have little to add to it. This inquiry into the effects of shocks of the head puts in a strong light the utility of the falx and the tentorium cerebelli, without which the brain would be subject to much greater disturbance.

We are also enabled to explain the symptoms observed on the ascent of high mountains. The weight of the atmosphere becomes so far diminished that the contact between the surface of the brain and the skull is easily broken, the shock produced each time a foot is brought to the ground in walking, the most trifling leap, might suffice to do it: hence the drowsiness, giddiness, staggering, insensibility, &c. experienced

on the ascent of Mont Blanc. The gravitation of the brain is necessarily accompanied by an impeded circulation; and I would rather refer to this cause the complete blindness with which some persons have been affected on ascending high mountains, than to the dazzle of the snow. The symptoms above mentioned have not been described, as far as I know, as attending ascents in balloons. This confirms the opinion, that some shock is necessary for their production; for aeronauts, while floating in the air, are not subject to any sudden concussions.

I am almost tempted to hazard the opinion, that the energy and perseverance of mountaineers may be thus accounted for. Living, as they do, in an atmosphere of low pressure, nature has provided them with a more vigorous circulation in the brain to counteract any undue tendency of the brain to sink. When they descend into the plains, they not only retain this extra vigorous circulation, but it is aided by an increased atmospheric pressure. If residents in a plain suffer from impaired nervous power, when ascending mountains, may not the converse hold good? Do those mountaineers, who never quit their elevated habitation, exhibit the same mental energy as those who descend into the plains and reside there?

This subject calls to mind the opinion lately advanced, that the head of the thigh bone is retained in its cavity by atmospheric pressure. This is confirmed by pneumatic experiments. Some of the feelings felt during the ascent of high mountains have been ascribed to the diminution of the support to the joint afforded by this pressure; but the explanation above given appears to me far more probable.

Bolton, Feb. 10, 1842.

MEDICAL GAZETTE.

Friday, February 25, 1842.

"Licet omnibus, licet etiam mihi, dignitatem Artis Medicæ tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

PRESENT STATE OF PRISONS.

THE fluctuations of opinion have been strikingly manifested on the subject

which we have placed at the head of this article. For many centuries, indeed until about a hundred years ago, it seems to have been thought that scarcely any treatment could be too severe for prisoners. The old homely phrase of sending a man "to rot in jail" expressed with force and accuracy the destiny which awaited him. The rareness, too, of jail deliveries, which is even now a grievance, was formerly so incredibly great, as to inflict an enormous punishment upon the innocent and the untried. Blackstone mentions a period, when, in the northern counties of England, a jail delivery took place only once in seven years! In the beginning of the last century, philanthropists seem to have begun to turn their attention to the state of prisons, and Thomson mentions with becoming praise, the exertions of a Committee, in 1729,

Who, touch'd with human woe, redressive
search'd

Into the horrors of the gloomy jail.

It is unnecessary to speak of the labours of Howard: his works remain an eternal monument of the fact, that an individual, thoroughly in earnest, can sometimes accomplish more than a whole society.

In consequence of the exertions of these and other philanthropists, the state of our jails became less disgraceful; laudable attempts were made to check the demoralization commonly produced by the imprisonment of young offenders, and it was thought right that even the worst criminals should no longer "rot in jail."

Of late years, however, an opinion has sprung up in various places, that felons are too kindly treated; and the well swept look of our pattern prisons made such an impression on some of their visitors, that they grudged the inmates so much apparent comfort, and declared them better off than the ordinary run of labourers. Attempts

have accordingly been made to increase the severity of the system. The wholesale slaughter of the prisoners in the Milbank Penitentiary, by the reduction of their diet, will be familiar to most of our readers. Similar experiments appear to have been made in other parts of the kingdom, without much greater success. According to a delusive table, which was laid, if we mistake not, before the Poor Law Commission of Inquiry, while an agricultural labourer eats 122 ounces of solid food weekly, an artisan (of the highest wages,) 140, a pauper 150, and a soldier 168, a prisoner in jail consumes 217. We are hardly disposed to quote as authority this table, the mistakes of which we have already more than once exposed; but if we could suppose it to be accurate in any one instance, and believed that prisoners at that time generally enjoyed two hundred and seventeen ounces of solid food weekly, it will follow that in many instances their allowances have since been most unreasonably curtailed; and while their former sizes were anything but abundant, their present ones are insufficient defences against diarrhœa, scurvy, and death.

These facts are amply demonstrated in the reports laid before Parliament by the Inspectors of Prisons; and every friend to humanity must rejoice that they have been eliminated from the triple fence of their parliamentary folios, and put in the accessible form of a pamphlet.*

Systematic starvation appears to be the order of the day; and to so fearful an extent is it carried, that in some prisons it has actually reproduced the scurvy, a disease which, in medical books, is said to be extinct in England!

* A Plea for the Imprisoned, grounded upon extracts from the prison reports of 1838, 1839, and 1840, laid before Parliament, and forming the Reports, No. IV. V. and VI. Together with an account of juvenile delinquency at Liverpool. A new edition. London, 1842.

At Walsingham, the scurvy appeared, because the surgeon, out of economy, ordered too low a diet. At Swaffham, "diarrhœa shows itself; some prisoners died; the diet is too low." Here, however, meat was recommended by the surgeon.

At Falkington, 17 out of 29 prisoners were afflicted with debility.

At Dorchester, in 1838, illness prevailed to such an extent, that the hospital was not large enough to contain the prisoners; but this jail has been since improved.

In the Bristol City Jail, the diet was altered in December 1835, and since then diarrhœa has diminished in the proportion of at least seven cases out of ten.

In Gloucester County Jail and Penitentiary, "those who are in solitary confinement a fortnight generally become emaciated, and very frequently suffer diarrhœa, but then they have only a pound and a half of bread, and a pint and a half of mint water, during the day, which is too little. The surgeon continually puts them on extra diet. *The keeper also agrees that they are not the same men afterwards that they were before.*" Bad as matters are now at Gloucester, they were still worse ten years ago, when the food was more liquid, and epidemic typhus was a common disease in the jail. The surgeon recollects forty cases occurring at one time.

Under the head of the Winchester County House of Correction, the inspector observes, that "soldiers, or others, placed in solitary confinement for a month, should receive a better diet than simple bread and water." Clearly.

At Devizes, where the diet consisted of bread and water, there were cases of diarrhœa throughout the year; and during April and May, 1838, every prisoner seems to have been affected

with it. The disease became far less prevalent on a pint of warm gruel being allowed to every prisoner at supper, at the suggestion of the Inspector.

In Falmouth Jail, each prisoner receives in a week seven pounds of bread, five of potatoes, three pints of soup, and fourteen of gruel. The bread and potatoes weigh 192 ounces, which, with the solid contents of the soup and gruel, may make up 217 ounces; being the quantity grumbled at in the table furnished to the Poor-Law Commission of Inquiry. Yet who does not see that the Falmouth rules err most dangerously on the side of scantiness, and are more like a physiological experiment than a practicable dietary? The dinner, five days in the week, consists of a pound of potatoes, with such a scrap of bread as the prisoner may have been able to save from his breakfast.

At Coventry, the inspector recommended an improvement in the diet, as it consisted of bread only. At Worcester also, the inspector very properly censures the diet, as consisting of bread and gruel only.

In the Springfield County Jail, there is a perpetual tendency to scurvy, owing to the scantiness of the diet, and the bad ventilation of the cells; so that the surgeon is constantly obliged to order extra diet.

The surgeon of the Westminster Bridewell finds that the health of prisoners committed for long periods fails, in consequence of the pooriness of the diet; and recommends that, in future, those who are sentenced for six months or upwards should have the following diet:—

“Twenty ounces of bread, daily.

One quart of gruel, daily.

Dinner, four times a week, meat cooked, six ounces.

Dinner, three times a week, soup, one pint.

Potatoes, one pound, twice a week.”

This dietary is a great improvement

on the Falmouth one, by the substitution of meat and bread for potatoes. It is not stated, however, that it has been adopted. During the six months immediately preceding the date of the surgeon's letter, there had been 89 cases of diarrhœa, and 57 of debility.

In the Bedford County House of Correction, the prevalent disease is “petechia, or land scurvy,” which is always to be found there. The surgeon attributes it to the strict discipline of the prison, the scantiness of the diet, and the defective ventilation of the cells. The diet consists of two pounds of bread, and rather more than an ounce of cheese a day; at the end of three months' confinement the diet is improved, and again at the end of six; but the health of the prisoners becomes impaired during the earlier period, and the subsequent improvement of their diet fails to restore it.

At Wakefield cases of diarrhœa were very numerous, and many of them terminated in typhus fever. At Huntingdon the surgeon says: “Cases of scurvy occasionally occur, and generally after six months' imprisonment—bleeding gums, spasms of the heart, exhaustion of the system.” The Inspector says that small beer would be a salutary addition.

“In some places,” says the author, “one pound of bread and a pint of mint water is thought ample;” that is, for a daily ration! In some jails, among which Derby has a bad eminence, untried prisoners are harshly treated; but in Reading County Jail, and House of Correction—is it not too monstrous for belief?—“prisoners for examination are not permitted to see any person, whether their friend or legal adviser.” Nor are they allowed to attend divine service, which is also in contravention of the Gaol Act.

Besides those which we have incidentally noted, other jails are remarka-

ble for the foulness of their atmosphere.

At Springfield, in Essex (a prison we have already mentioned), the governor, the surgeon, the chaplain, and the subordinate officers, are all united on this point. The turnkeys say that, when they unlock the cells in the morning, "the effluvium is frequently so offensive, that they return quitesick, and unable to eat their breakfast."

Again, "at Carlisle, the lock-ups are 10 feet by 7 feet $2\frac{1}{2}$ inches. It will scarcely be credited that *nineteen prisoners* have been thrust into one of these cells at a time—they are wholly unfit for their purpose."

The experiment of solitary confinement has failed both in this country and in America, where it has been tried on a large scale. In many cases it produces dementia, partly perhaps from its immediate effect upon the mind, and partly from the vice to which it gives rise

The Inspector found seven lads suffering solitary confinement in Ipswich Jail for refractory conduct in a Union workhouse. The eldest, who was only 19 years old, was sentenced to four months' solitary imprisonment. His allowance of food was a pound and a half of bread and a quart of gruel a day. By the intercession of the Inspector, he was released after two months' imprisonment.

What is to be said on the subject of flogging? Can we, in our half-civilized state, entirely dispense with this punishment in or out of jail? We fear not. Much, however, may be done to lessen the objections to its use. "I am of opinion," says one of the Inspectors, "the number of lashes, the time of punishment, and the instrument, should be defined, and the attendance of a surgeon made imperative by legal enactment."

In one prison ten or twelve lashes

are given, in another eight or ten dozen; in one, a simple school rod is used; in another the army cat. So that the punishment does not depend on the atrocity of the crime, but on the usage of different prisons. This ought not to be.

Nec vincet ratio hoc, tantundem ut peccet
idemque,
Qui teneros caules alieni fregerit horti,
Ut qui nocturnus Divûm sacra legerit. Adsit
Regula, peccatis quæ pœnas irroget æquas;
Ne scuticâ dignum horribili sectère flagello*.

It might be well to limit the number of lashes to be inflicted by the sentence of a court of justice to fifty, and by the magistrates, for infraction of prison discipline, to twenty.

There is a most singular case in the "Plea," which looks rather as if selected from some Russian note-book than from an English report. A prisoner at Chester was committed for trial at the session; but instead of being tried was called up one day by the keeper of the prison, and told that he had been summarily convicted, and sentenced to twelve months' imprisonment. The case was referred to the Secretary of State, and the man was released. Who is safe after this?

On the whole, it must be allowed that our prisons require the most watchful superintendence; even the visits of the ordinary magistrates seem insufficient to keep them in a satisfactory state; and if left to the arbitrary rule of keepers, some of the worst abuses of the middle ages might be revived in the nineteenth century.

NORTHERN HOSPITAL, LIVERPOOL.

To the Editor of the Medical Gazette.

SIR,

SHOULD the following cases, which occurred in the surgical practice of the Northern Hospital, under the care of Mr. Stubbs, be deemed of sufficient interest to merit a place

* Hor. Sat. lib. i. 3. 115.

in your valuable journal, I should feel obliged by their insertion.

I am, sir, yours respectfully,
EDWARD PARKER,
House Surgeon.

Liverpool, Feb. 10, 1842.

Spreading Gangrene, successfully treated by Amputation.

David Wright, æt. 23, admitted Sept. 12, 1841, was brought to the hospital early in the morning in a state of intoxication, having been engaged in a street-fight, when, being knocked down, it is supposed he was trod upon: recollects merely that, on being raised, he was unable to bend his elbow. The left arm presents the following appearances: there is a wound at the inner side of the elbow joint three inches in length, extending obliquely over the inner condyle of the left humerus, which, with the trochlea surface, lies exposed in the wound, but does not protrude: the ligamentous and tendinous structures at the inner side of the joint are completely divided, and two small portions of bone, detached from the interior condyle, can be felt in the wound; the olecranon process projects backwards remarkably, and on further examination it appears that the joint has sustained a dislocation of both bones backwards. On introducing the finger into the wound, and grasping the parts in front of it, no pulsation of the brachial artery can be perceived; the sensibility of the hand and fingers is unimpaired: considerable venous hemorrhage seems to have taken place, but the bleeding has now nearly ceased. After removing the loose fragments of bone, and reducing the dislocation (which was very easily effected by slight extension), the edges of the wound were brought into apposition by strips of adhesive plaster, over which a piece of lint dipped in blood was applied: the fore-arm was brought to a right angle with the arm, and the joint kept perfectly quiet by being laid on a tin splint. Eight hours after the accident he expressed himself as feeling comfortable, and free from pain; the hand was warm, but not quite of equal temperature with the other; no pulsation could be felt in the radial or ulnar arteries. On the 13th and 14th, continued in the same state, the hand still retaining its temperature: at four in the afternoon of the 14th, the nurse reported him as much worse: on visiting him, I found him suffering very considerable pain; the hand and forearm had suddenly become quite cold and powerless, the fingers contracted, stiff, and void of sensibility, the skin below the elbow of a deadly pallor, the wound puffed and unhealthy, the lower part of the arm somewhat but not much swelled. On the following morning a gangrenous spot was observed at the inner side of the fore-

arm. On the 16th, the gangrene had considerably extended, involving nearly the whole of the forearm, and extending rapidly to the arm: no appearance of a line of demarcation could be observed; the countenance had become anxious, features sharpened, pulse 120, and weak. A consultation was then called, at which it was resolved to perform immediate amputation of the member, which was accordingly done four inches below the shoulder. The operation was performed by the circular method, but presented no point of interest; the stump went on favourably, his general appearance progressively improved, and on the 19th Oct. he was discharged.

On examining the amputated limb, the brachial artery was found to be completely sound about an inch before its bifurcation; the two ends were conical, and filled with coagulated blood, which extended in either direction for nearly an inch; the lower end of the artery was drawn out into a thread.

The median nerve opposite the bend of the elbow was very much inflamed and thickened in from two to three inches of its extent; the ulnar nerve also presented the same appearance, but in a much less marked degree.

Fracture of the Femur, with and Inversion of the Toes.

Patrick Boyle, æt. 30, admitted Aug. 5, 1841, states, that while standing near a cart which had been reared on its end, it came suddenly down and struck him over the hip. He was immediately brought to the hospital, and presented the following symptoms: considerable pain and tumefaction about the left hip, which admits of being flexed and adducted without much pain or difficulty, but extension and abduction cannot be effected, and the attempt causes great suffering: *the limb is rotated inwards*. The bone resting on the third lower limb of the opposite thigh: it is shortened about an inch, as measured from the patella to the spine of the ilium; the great trochanter is rather higher and a little more posterior than natural: on rotating the limb very distinct crepitus can be felt by placing the hand on the great trochanter, which is found not to describe its usual semicircle, but to roll on its own axis: while lying in bed he presents the exact appearance of a man with dislocation into the ischiatic notch. On applying extension in the straight direction, the limb could not be made to acquire its natural length, and, as there was a good deal of pain and swelling in the hip, it was deemed prudent to abstain for a short time from all further efforts at reduction. On the day but one after the accident the attempt was renewed, and being made in the direction in which the limb lay it was readily lengthened, and, in doing so, gave an evident jerking and

grating sensation : left to itself it again became shorter.

The long splint of Desault was applied in the usual way, with the addition of a pad behind the trochanter : very little extension was required to keep up the length of the member.

Oct. 5.—Has not had a single unfavourable symptom ; the splint has been removed several days, and the fracture is firmly united : is allowed to walk about on crutches : has perfect motion of the hip in every direction : there is no perceptible shortening of the limb : was discharged a few days afterwards, being able to walk with the assistance of a stick only.

In the 13th volume of the Medical and Chirurgical Transactions, is a paper by Mr. Guthrie, on Oblique Fractures of the upper part of the Femur, in which that gentleman notices the occasional occurrence of inversion of the toes, and accounts for it by stating, "that when the fracture has taken place in such a manner as to be external to the insertion of the rotators outwards, just sufficiently within the insertion of the gluteus medius and minimus, so as not to deprive them of their due action, the toe will be turned inwards, and must always be so, or remain without any alteration of position, according to certain variations in the inclination of the fracture affecting the power of the muscles." Mr. Guthrie adduces a case in which the death of the patient allowed him an opportunity of verifying this explanation by a post-mortem examination. A similar case is also related by Mr. Syme, in the Edinburgh Medical and Surgical Journal for April 1826.

I have thought proper to refer to the above cases, because the symptoms in each so closely correspond with that of Boyle's, that I think there can scarcely be a doubt of its being of the same kind, though the recovery of the patient prevents me from supplying the positive evidence which nothing but a post-mortem examination can afford.

THE COLLEGIATE SYSTEM.

To the Editor of the Medical Gazette.

SIR,

IN connection with the subject of medical reform, there have been made at various times observations on the expediency of introducing into the medical schools of this metropolis a system analogous to, or identical with, the collegiate system, as observed in the Universities of Oxford and Cambridge. The pamphlet of the Rev. Mr. North, at the time of its appearance, attracted, and deservedly so, some attention ; together with remarks on the subject by

yourself, and the editor of the Lancet ; not forgetting the able article on Medical Reform in the Quarterly Review. It is again brought before the notice of the profession, and the public generally, in the British and Foreign Medical Review, being also alluded to in the Lancet of the 15th ult. The writers of these various articles agree in the necessity of some plan of the kind, as being one of the chief means to increase the respectability of our profession, and the amount of knowledge that would be gained by the pupil during his attendance upon the hospitals—the details alone requiring to be settled ; and these might be based upon the collegiate system, but modified or altered according to the views of the heads of the respective schools which should introduce the plan. King's College has the honourable distinction at present of being alone in the adoption of the collegiate system ; that, however, only to a limited extent. At the commencement of the session 1839 and 1840, Dr. Addison, in his introductory address at Guy's Hospital, pointedly alluded to the subject, expressing himself as authorized by Mr. Harrison, the worthy treasurer of the hospital, to state that it was in contemplation to erect or provide a suitable building adjacent to the hospital, for the residence of pupils. Since that time, nearly three respective sessions have gone by, and I am afraid, with them, all thought of rendering Guy's Hospital the first school to adopt generally a plan which doubtless would be truly valuable to those engaged, or about to engage, in the requisite important studies of a profession, honourable, laborious, and demanding at the same time the exercise of that firm and consistent conduct which can alone be grounded upon strictly moral and religious principles. It would appear to me that Guy's Hospital is well fitted to be the first to adopt this now almost unanimously considered advantageous system ; and for these reasons, it has a princely income, (not depending upon the chance and varying contributions of the public), the management of which, and the affairs of the hospital generally, being vested nominally in the governors, but in reality in the treasurer, so that the conflicting opinions of a board or managing committee would here raise no obstacle to the adoption and carrying out of the system ; and secondly, the average amount of pupils attending is sufficient to occupy a building of large size, and to render it in a pecuniary view a safe speculation.

Through the medium of your valuable journal, I would bring this subject again before the notice of the treasurer and medical officers of that institution, (particularly as in a short time the gentlemen educated at the Hospital meet at their anniversary dinner) and request their particular attention.

to it, convinced that if the united energy and working together which is so pre-eminent there, were applied, the result would soon be achieved. We should naturally be led to inquire from what causes an undertaking, so promising in its results, should have been allowed to slumber for nearly three years. That a gentleman, so well known as an admirer of our universities, and supporter of those institutions which have for their object the improvement and good of his race, as is Mr. Harrison, has, however, I trust, permitted the subject only to slumber, but not consigned it to the sleep of death.

"Video meliora proboque."

I am, sir,
Your obedient servant,
AN OLD GUY'S MAN.

Jan. 25, 1842.

P.S. The above was written before I had received the last number of your Journal.

SPACE IN WORKHOUSES.

To the Editor of the Medical Gazette.

SIR,

I AM the surgeon to a workhouse in the country, and as such have been required by the Guardians and Poor Law Commissioners to report what number the house should contain, "consistently with a due regard to health and ventilation."

Not wishing to answer by a guess or vague estimate, I feel much at a loss, from the want of any recognized standard regulating the space that should be allotted to any given number of persons, sick or healthy.

Perhaps some of your readers will kindly point out authorities or sources of information on this subject; and it would be satisfactory to learn the facts of the average cubic space allotted to each person in the day-rooms and sleeping-rooms of hospitals, workhouses, and prisons.—I am, sir,

Your very obedient servant,
INQUIRER.

Feb. 14, 1842.

ON

RHEUMATIC DERMALGIA, OR RHEUMATISM OF THE SKIN.

By J. H. S. BEAU,

Physician to the Central Bureau of the
Hospitals of Paris.

NEURALGIA of the skin has hitherto been usually confounded with pains of the nervous trunks, muscles, &c. M. Piorry was the first who referred it to a separate head under the name of *dermalgia*. It frequently coexists with neuralgia of the nervous

trunks, with ramollissement of the brain; or occurs in cases of inflammation of the spinal cord. Severe pain in the uterus is often attended with dermalgia of the skin of the pelvis and thighs, and clavus hystericus is frequently a neuralgic affection of the skin.

There are several other forms of this affection, but one which has escaped notice down to the present time is rheumatic dermalgia. This is of more frequent occurrence among men than women, and is induced by damp, cold, and those other causes to which rheumatism generally is owing. Hence it is most common at the beginning of spring. The head and lower extremities are the parts usually attacked, but the pain is not stationary in one place; often changing its seat in a gradual manner, just as erysipelas sometimes wanders from place to place. Patients experience two kinds of pain, the one abiding, the other intermittent and severe, resembling the prick of a pin or an electric shock, and recurring about every thirty seconds. The abiding pain is frequently little more than a permanent exaltation of the natural sensibility of the skin. Friction of the part with the finger or with the patient's dress, always increases the pain; and if the affected part is covered with hair, very severe suffering may be produced by passing the hand over the hair. The intermittent pain is often at once excited by touching the part in this manner, and though firmer pressure puts a stop to the permanent pain, the return of the intermittent pain cannot be thus prevented. The intermittent pain is always considerably worse at night. Rheumatism of the skin usually alternates with that form of the disease which affects the muscular and fibrous tissues. Its usual duration is from a day to a couple of days, and it subsides by degrees just in the same way as it made its attack. The author met with three instances in which it was accompanied with fever, and involved a much larger surface of skin than usual. It is, in general, an affection easily curable. The indications for its treatment do not differ from those to be observed in ordinary rheumatism, but it does not generally require any very active remedial measures. To prevent its recurrence, it is always desirable for the patient to wear flannel next his skin.—*Arch. Gén. de Méd.*, and *Brit. and For. Med. Rev.*

POISONING OF LEECHES BY THE BLOOD OF THE SICK.

By STEFANO GRANDANI.

IN the beginning of May, there was brought to the Brescia Hospital for males, a butcher, who had contracted malignant carbuncle in

cutting up an ox that had died of that disease. Among the means employed were 120 leeches, which were to be applied in three divisions to his right arm, all of which died on being taken off the skin of the patient. Our chemist being informed of the case, though he did not doubt that the death of the leeches proceeded from the blood which they had sucked and were full of, had several other lively and fresh leeches applied, and these also immediately fell off dead. This having occurred in the calamitous time of the cholera, curiosity was excited to know whether leeches would also die from the effects of the blood sucked from cholera patients; and it was found, on good information, that this had actually occurred in the cholera hospital.—*Annali Universali de Medicina*; and *Pharm. Journ. and Transactions*.

MR. SAMPSON.

THE testimonial of respect intended to be presented to Mr. Sampson on his leaving Salisbury, was forwarded to his residence in town last month. The plate, which was supplied by Mr. Bennett, was of the value of 160 guineas, and consisted of a massive silver candelabrum, in the style of Louis XIV., magnificently wrought, with branches to receive four lights, and with a bouquet of flowers in the centre. On the base are three lions in bas relief, beautifully executed, and three ornamental shields. Also a full-sized hash-dish and cover, with a richly-chased edge, composed of arabesque shell and foliage, with the flower of the water-lily on the crown of a shaped cover, the whole elevated on a tripod of foliage with a lamp. Mr. Sampson's arms and crest, and the following inscription, are tastefully engraved on each article:—

“Presented to George Sampson, Esq., F.R.C.S., by his Friends, on his leaving Salisbury, with their sincere regard and esteem. 1842.”

An address accompanied the plate.

ROYAL COLLEGE OF SURGEONS.

LIST OF GENTLEMEN ADMITTED MEMBERS
Friday, Feb. 18, 1842.

C. L. Alexander.—R. N. Hayward.—J. Denny.—E. Rice.—C. B. Smith.—G. T. Cooper.—L. White.—G. Robinson.—R. Agar.—T. Inman.—H. B. Bunnett.

NOTICE.

Mr. Braid's paper on Mesmerism was addressed by post (as we understood he wished it to be) to Mr. Duncan: having, however, obtained it from the Dead Letter Office, it was sent by post (Feb. 24th), addressed to him at Manchester—and here our proceedings with regard to it must end.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, February 17, 1842.

W. H. Hoggett, Saltash, Cornwall.—Henry Pearson, Bury St. Edmunds.—W. Bower, Yorkshire.

A TABLE OF MORTALITY FOR THE METROPOLIS,

Shewing the number of deaths from all causes registered in the week ending Saturday, Feb. 12, 1842.

Small Pox	7
Measles	19
Scarlatina	14
Hooping Cough	71
Croup	6
Thrush	5
Diarrhœa	5
Dysentery	1
Cholera	0
Influenza	6
Typhus	20
Erysipelas	6
Syphilis	1
Hydrophobia	0
Diseases of the Brain, Nerves, and Senses ..	161
Diseases of the Lungs, and other Organs of Respiration	365
Diseases of the Heart and Blood-vessels	21
Diseases of the Stomach, Liver, and other Organs of Digestion	65
Diseases of the Kidneys, &c.....	9
Childbed	6
Ovarian Dropsy	0
Disease of Uterus, &c.	1
Rheumatism	1
Diseases of Joints, &c.	5
Ulcer	2
Fistula	0
Diseases of Skin, &c.	2
Diseases of Uncertain Seat	113
Old Age or Natural Decay.....	106
Deaths by Violence, Privation, or Intemperance	23
Causes not specified	1
Deaths from all Causes	1042

METEOROLOGICAL JOURNAL.

*Kept at EDMONTON, Latitude 51° 37' 32" N.
Longitude 0° 3' 51" W. of Greenwich.*

<i>February</i>	THERMOMETER.		BAROMETER.	
Wednesday 16	from 37 to 49		30·39 to 30·33	
Thursday . 17	36	47	30·29	30·20
Friday . . . 18	25	39	30·20	30·30
Saturday . 19	22	39	30·28	30·12
Sunday . . 20	25	36	29·97	29·83
Monday . . 21	29	43	29·79	29·31
Tuesday . 22	26	45	29·68	29·51

Prevailing wind, S.W.
On the 16th, a general overcast, foggy afternoon. The 17th, morning foggy, otherwise clear. The 18th, except the morning, generally clear. The 19th, morning foggy, afternoon clear, evening overcast. The 20th, foggy and cloudy. The 21st, evening clear, otherwise cloudy; raining frequently and heavily during the afternoon. The 22d, cloudy, rain in the morning and evening. Rain fallen, 14 of an inch.

CHARLES HENRY ADAMS.

ERRATUM.—In our number for Feb. 11, p. 791, col. 2, for “sponge lint,” read “sponge tent.”
WILSON & OGILVY, 57, Skinner Street, London.

THE LONDON MEDICAL GAZETTE,

BEING A
WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

FRIDAY, MARCH 4, 1842.

LECTURES
ON THE
PRINCIPLES AND PRACTICE OF
PHYSIC,

Delivered at King's College, London,

BY DR. WATSON.

Pathology of chronic ascites; of ovarian dropsy. Treatment of these two disorders. Internal remedies: extirpation of the ovarian sac: paracentesis abdominis.

IN my last lecture I pointed out the means we possess of distinguishing ascites from ovarian dropsy. Continuing the parallel between these two disorders, I have still to consider their pathology; and to prescribe their treatment.

I mentioned that chronic ascites is sometimes the sequel of acute inflammation of the peritoneum. In such cases, the abdomen is usually uneasy, and tender under pressure; or at any rate, more sensible than common: and I believe more *hot* also than common. Whereas when ascites is passive as well as chronic, you may make the requisite examination without causing any distress to your patient. There is no pain produced by palpation, by pressure, or by percussion. Even when the dropsy has resulted from bygone inflammation, it does occasionally, though rarely, happen, that no other trace of such inflammation is discoverable in the *living* patient. The absorbing function of the membrane having, however, been spoiled, the collected liquid remains. Such a condition I believe I have witnessed. The history of sudden and sharp pain, and tenderness of the abdomen, with fever, immediately before the dropsical swelling took place, made it probable that it was the consequence of inflammatory effusion.

But the fever had entirely subsided; no tenderness was left; no large veins were visible on the surface of the belly, denoting internal obstruction; and the general health was good. The patient had no other dropsy.

The main exciting cause, however, of true and uncombined ascites, when no inflammation is, or has been, at work, is some impediment to the venous circulation in the abdomen. Whereabouts, and of what kind, is this impediment? That is the question which, in each particular instance, we ask ourselves.

The old doctrine respecting the causes of ascites, vaguely referred the collection of liquid to *obstruction*; and to *organic diseases* of the abdominal viscera; and above all, to *hepatic* disease. But as we are now better instructed, and know that organic diseases produce the dropsy, ultimately, by retarding the flow of blood through the system of the vena portæ, we see that the truth was only half perceived by the ancient pathologists. We can now understand why some organic diseases of the abdomen lead to dropsy of the peritoneum, and others (even of the same viscus) do not. And we have no difficulty in comprehending why, of all the abdominal viscera, the *liver* is the one whose diseases are the most frequently connected with ascites: that gland being traversed by the converging branches of the venous trunk, through which passes by far the greater part of the serosity absorbed from the surface of the vast membrane that clothes most of the abdominal organs, and lines the cavity containing them. It is plain that an accumulation of serum in the peritoneal sac may arise from a mechanical obstruction in the trunk of the vena portæ, or in some of the principal branches that unite to form that vein; or from certain diseases of the liver itself. But we know that disease of the liver is of very common occurrence, and oftentimes very obvious, while there is no ascites. And a further question arises—With what kinds of disease

of the liver is hepatic ascites most apt to be associated?

In truth, there is one special form of liver-disease which, though not the sole, is the grand cause, of passive and simple ascites. It has long been noticed that mere enlargement is not the most common condition of the liver met with in hepatic dropsy; but rather the small, hard, contracted viscus. Mere increase in the size of the organ may interfere but little with the portal circulation; whereas a shrinking and diminution of its bulk must needs do so. In point of fact, that particular state of the liver which the French have termed *cirrhose*, and which is familiar to morbid anatomists in this country as the *hobnail* liver, is the great source of passive ascites.

The true character of this remarkable condition of the liver is of modern discovery. The credit of correcting the erroneous opinions which had been entertained respecting it is due, I believe, to Mr. Kiernan. The change undergone by the organ has also been clearly described by Dr. Carswell; whose delineations of its physical appearance are now before you. The change results from chronic inflammation, and chronic thickening (mis-called hypertrophy), of Glisson's capsule. Since Mr. Kiernan's admirable exposition of the minute anatomy of the liver has been given to the world, few can be ignorant that the cellular tissue, termed the capsule of Glisson, accompanies the portal vein, the hepatic artery, and the biliary ducts; and forms a sheath around these vessels in their course through the liver: while the hepatic vein and its branches are lodged in the proper substance of the gland without any such investing membrane. It follows that a general thickening of this tissue must produce a general pressure upon the portal veins, and hinder the return of the venous blood from the intestines. Hence, as in analogous cases, congestion of the capillaries, arrested absorption, mechanical transudation of serous liquid. The pressure affects also the nutrient vessel, the artery of the liver; so that, in most instances, there is atrophy and shrinking of the organ. And sometimes, but not always, from pressure upon the biliary vessels, there is jaundice also. By degrees, the cellular tissue itself begins to shrink; and the spaces in which it ramifies on the surface of the liver are pulled inwards; the lobules appear to be prominent; and the surface becomes irregular and knobby, and studded with little roundish eminences like the heads of nails. The constricted lobules are very conspicuous in the cut surface also of the liver.

In the living body the presence of this hepatic disease is, for the most part, a matter of inference only. It is rendered pro-

bable by its ascertained frequency in connexion with ascites, and by the absence of any other obvious cause for the dropsy. But sometimes the irregular surface can be felt through the walls of the abdomen.

The nature of this morbid change affords a reason for the intractable and unpromising character of ascites in general. The obstructed blood seeks indeed new channels; but the compensation they furnish is rarely sufficient. The superficial veins become obvious, numerous, large; and wander with many inosculation over the surface of the belly. Large veins, significant of the same compensating effort, have been met with also in the adhesions which previous inflammation had left between the liver and the diaphragm.

Among the causes to which the thickening of the capsule of Glisson may be ascribed, habitual intemperance holds the chief place.

But this condition of Glisson's capsule, though it is the principal, and by far the most frequent, is not the only cause of obstruction to the current of the blood in the portal vessels, and of consequent ascites. In those specific forms of liver disease in which separate tumors are scattered through its substance, one of these tumors may be so placed as to press upon the trunk of the vein. So, obviously, may abdominal tumors of any kind; enlarged mesenteric glands; cancer of the pylorus; cancer of the head of the pancreas; and the like.

Ascites is found to be not unfrequently associated with disease and enlargement of the *spleen* also; but in most instances of this kind, the enlargement of the spleen and the peritoneal dropsy are not connected as cause and effect; but are both consequences of portal obstruction.

When, after death preceded by ascites, the cavity of the abdomen is laid open, its contents present a bleached and sodden appearance. It has been made a question whether this be the result of the long-continued immersion of the living tissues in the accumulated water; or of their short maceration after death. The question has no practical importance.

Dropsy of the ovary, in its ordinary form, consists (I believe) in disease and enlargement of one, or more, of the Graafian vesicles; or of the ova which they enclose.

The actual condition of the dropsical ovary is subject to much variety. Sometimes there is but one cyst; and this may be no bigger than a pea; or it may be large enough to contain many gallons. Its walls may be as thin and flexible as those of the healthy urinary bladder; or they may be firm, and half an inch or more in thickness. It may spring from a small pedicle, and lie free and unattached in the cavity of the

peritoneum; or it may adhere, partially or at all points, to the contiguous parts; or it may be tied down by bands of coagulable lymph. Its inner surface may be smooth and even, or knobby and irregular. Lastly, the fluid contained in the cyst may be thin, or consistent; limpid, or glutinous; opaque, or transparent; and of various tints: so that, in different cases, it may be colourless, green, purple, red; and more or less resemble in appearance pure water, white of egg, jelly, glue, birdlime, or treacle. Most commonly, however, when the cyst is single, its contents are thin, and aqueous.

Again, the dropsical ovary may be multilocular, composed of many cysts, which are usually distinct, but which sometimes communicate together; and these cysts, in the same ovary, while they vary much in size, may differ also from each other in any or all the particulars just enumerated as being incidental to a solitary cyst.

Commonly one of the cysts is much more capacious than the rest; and some part of its inner surface is frequently embossed, as it were, by the projecting outline of a group of small nodules, which seem to lie within the parietes of the larger cyst, but which, in truth, are cysts of similar origin with it, but of more stunted growth.

The external surface also of the multilocular ovary is generally lobulated; and its inequalities may often be discovered by a careful examination of the abdomen in the living subject.

Sometimes the tumor is solid throughout; in which case the term dropsy is altogether misapplied.

These differences are not without occasional importance, in reference to some points in the treatment of the disease.

The *progress* of ovarian dropsy is no less wanting in uniformity. Sometimes it is very rapid; sometimes it is very slow. It may destroy life in a few months; it may continue, a mere burden, with scarcely any fatal tendency, for many years. Not unfrequently, after a period of active increase in the tumor, the morbid process, without any obvious cause, suddenly stops: and the pause may be final; or, after an uncertain interval, the disease may resume its former activity.

Under all circumstances the malady is a serious one: for its possible grievances are many; and its issue is precarious and unpromising. Although, in some cases, the general health for a long time is but slightly or not at all impaired, in others the disease runs a short course; the tumor increasing rapidly and proving ultimately fatal by its bulk and pressure; or embittering and abridging the unhappy patient's existence by some accident of growth or position. Even when of no vast magnitude, it may be so

situated as to impede or prevent the expulsion of the fæces from the bowel, of the urine from the bladder, or of the foetus from the gravid uterus,

The single cysts, having thin parietes, and containing a serous liquid, are not always produced by disease and distension of a Graafian vesicle; for they sometimes have no connexion with the ovary, but spring from some other part of the uterine appendages.

Neither, perhaps, can it be *demonstrated* that the complaint originated within the Graafian vesicles, when it exists in its more complicated form; when the cysts are many, and their contents various. But the shape of the cysts, which are more or less spherical, their number, their isolation in most cases, and the diversity in the matters by which they are filled, render this view of their origin at least a probable one.

This form of the disorder has been considered as belonging to the category of *malignant* diseases; but, in my judgment, without sufficient reason. It is true that the tumor does sometimes involve one or more of those morbid conditions, which have been denominated scirrhus, cancer, fungus hæmatodes, cerebriform disease, or melanosis, and which all appear to be varying results of the same morbid process, and to be referable to the genus *carcinoma*: but whenever this is observed to be the case, other structures also are found to be infested with analogous changes. The so-called malignant disease occupies the ovary in common with other parts; and this is one of its most constant characters, namely, that proceeding from some vice in the constitution, it pervades different organs of the body at the same time, or in succession; whereas in by far the majority of instances of ovarian dropsy, these peculiar products are met with neither in the diseased gland, nor in any other place. It has already been remarked that many women, labouring under ovarian dropsy, enjoy nevertheless in all other respects very good health, even for many years. The victims of malignant disease are not so fortunate. *They* either are soon cut off, or, if they linger, they seldom fail to exhibit, in their complexion and general condition, notable indications of the mischief which is in progress, gradually undermining the powers of life.

If it be admitted, as a reasonable conjecture, that the Graafian vesicles or ova are the seat of the primary changes, we may push our speculations a little farther. These ova are destined, under the peculiar stimulus of impregnation, to build up the fabric of the body in all its parts and qualities. And we may suppose that, in consequence of some unnatural and morbid stimulus, perverted and erring action may be set up, and strange

products result. It is not uncommon to find fat, hair, cholesterine, teeth, and other bones, in the diseased ovaria, even of virgins.

This view of the matter is strengthened by the fact, that dropsy of the *ovary* has not been known to *commence* before the age of puberty; nor often after the capability of child-bearing had ceased; but only, or chiefly, during that period in which the organ, if healthy, is susceptible of its proper and temporary function. Virgins, and barren and fruitful wives, are alike subject to the disease; but in what relative proportions, statistical inquiry has not yet (so far as I know) determined. Where it accompanies, it may also account for, sterility.

The catamenia during the progress of the malady sometimes appear with more or less regularity and quantity; sometimes are entirely suspended. This function is so often interrupted under other circumstances, that its derangements shed but little light upon cases that are otherwise obscure. When the discharge continues to recur, we may presume that one, at least, of the ovaries is in a tolerably healthy state: when both are sensibly diseased, the catamenia may be expected to be wanting.

The *treatment* of these two forms of abdominal dropsy must, up to a certain point, at which the operation of tapping becomes expedient, be considered separately. Of both it may be said, that their cure is seldom accomplished; yet, for reasons already assigned, ascites has, upon the whole, a more certain progress towards the destruction of life than ovarian disease: while, perhaps, it is oftener cured.

In passive ascites, when the distension of the peritoneum has crept on without pain, fever, or other marks of inflammatory action, our first and best hope of evacuating the collected liquid will rest upon diuretics. Hepatic ascites and renal disease may be sometimes found in conjunction, but according to my experience, they seldom are so: and except that both may probably owe their occasional origin to habits of intemperance, there appears no reason why they should be. Diuretics may be administered, therefore, without scruple. The hydragogue purgatives are to be employed, also, when diuretics fail to act, or to reduce the swelling; and when the disease is not already complicated with diarrhoea. And inferring with more or less certainty the existence of hepatic disease — sometimes from palpation of the enlarged or altered liver, sometimes from the coincidence of jaundice, but most of all from the result of accumulated experience respecting the morbid anatomy of such cases — we give the patient the chance of the remedial influence of mercury. The disorder being chronic, the introduction of

that drug should be gradual. The iodide of potassium is held by some physicians to be especially serviceable in hepatic ascites. Compounds of mercury and iodine may be applied, by inunction, to the surface of the abdomen, and to the right hypochondrium in particular. In Germany, the muriate of ammonia is in much repute as a therapeutic agent. This diuretic salt, though seldom administered internally in this country, is believed by some practical men who have employed it, to exercise the same beneficial influence upon the functions of the liver, as is commonly attributed to preparations of mercury; while it is less productive of distress or inconvenience. My own experience upon this point is too limited to justify me in expressing any confident opinion about it; but in some recent instances I certainly have noticed a remarkable improvement in the character of the biliary excretion, after the daily exhibition of sal-ammoniac combined with the extract of taraxacum.

You will generally be obliged to try, in their turn, all the diuretics within your reach, and frequently to no purpose. Our efforts to remove by medicine the accumulated liquid, or to cure the morbid condition on which the accumulation depends, are too often made in vain. The distension of the peritoneum continues to augment; the distress arising therefrom becomes urgent and extreme; and at length, to afford temporary ease to the patient, and in the faint hope also of giving him permanent relief, we resort to the mechanical expedient of *paracentesis*.

When we have the opportunity of treating *ovarian dropsy* from its commencement, we sometimes find that the enlarging ovary is painful, or tender. This is an indication for *antiphlogistic* measures. But from such remedies, or from any remedies, little more than temporary relief is to be expected. My position as physician to a hospital, has brought under my notice several cases of ovarian swelling, at a very early period of its developement; when all that could be detected by a careful examination of the abdomen was a small tumor, not larger, perhaps, than an egg, and occupying the situation of the ovary; to which the attention of the patient had been drawn by some pain or uneasy feeling in that part. I have treated such cases assiduously, with the remedies of chronic inflammation, frequent topical bleedings, and the use of mercury till the gums were affected; with the remedies of ordinary dropsy, diuretics and drastic purgatives; and with remedies accounted specific, the liquor potassæ, the various preparations of iodine; and I must honestly confess to you that I am unable to reckon one single instance of success. Yet these

are the measures that we are bound to try. They have succeeded—as we are assured by competent and credible witnesses: they may therefore succeed again. The amount of my own experience, however, tends to the persuasion that medicine has, in general, very small influence over the progress of this disorder. The cases that do well, do well we scarcely know how or why; the cases that prove fatal run their course in spite of us.

Sometimes, as has been stated, these ovarian tumors reach a certain magnitude, and then (wherefore we cannot tell,) enlarge no more; but remain a mere inconvenience and deformity, for many years. Occasionally they burst spontaneously, or in consequence of some accidental violence, and cause fatal peritonitis; or empty themselves harmlessly (adhesion having previously taken place,) through some channel of communication with the bowels, or with the bladder; or externally through the parietes of the abdomen.

Tumors, supposed to be ovarian, do sometimes disappear entirely. It may, however, be doubted whether all, or even many, of the enlargements which have had this fortunate issue, were really connected with the ovary. One source of mistake I have myself more than once encountered, and I believe it to be not uncommon. A brief statement of the circumstances under which I first observed the fallacious symptom, will shew you at once what I mean. Some years ago I was sent for by a lady, who for many days had been labouring under an ordinary attack of continued fever. While examining the abdomen by pressure, I discovered, on the right side, between the ilium and umbilicus, a round, hard, painless tumor, as big as a swan's egg. The patient was aware of it; and thought it had existed for some time. At the next visit it was gone. In the interim, very abundant discharges from the bowels had followed the administration of purgative medicine. The tumor had obviously been formed by the accumulation of fecal matters in the cœcum.

Similar collections take place, less frequently, on the left side, just above the sigmoid flexure.

The parts concerned in this disorder are not essential to life, or to the enjoyment of health. On some of the lower animals, the operation of spaying is as customary in the one sex, and is performed with as little risk, as that of castration in the other. The ovaries have in several instances been extracted from the living human body, without any ill consequences. These facts, and the intractable character of the disease, have naturally suggested the expediency of extirpating the tumor in cases of ovarian dropsy.

But although the ovary, when healthy, or

when not much enlarged, may be removed without much difficulty or hazard, the operation becomes always perilous, and often impracticable, when the altered gland has attained any considerable magnitude. Yet these are the very cases for which the remedy is needed. A large ovarian tumor is usually multilocular, with firm parietes, and thick internal septa; and is therefore incapable of collapsing much when punctured. To extirpate such a tumor, the abdomen must be (as it frequently has been) laid open from the sternum to the pubes. Most commonly, also, a large ovarian swelling is adherent to the contiguous parts; a circumstance which either makes the proposed removal of the tumor impossible, or, if the connexions admit of being broken down, augments in a fearful manner the jeopardy of the patient. It is not surprising, therefore, that the results of experience have been so discouraging as almost to prohibit such attempts in future. The operation has, indeed, in some authentic cases, been quite successful. In other instances, the surgeon, after exposing the adherent mass, has been fain to replace the effused bowels, and to sew up the abdomen, as speedily as possible; and the patient, having suffered all this in vain, has been fortunate enough to escape with life. In others, the adhering tumor has been separated, and the object achieved; and the woman has lived thereafter for some hours. Three times, at least (one of the cases is recorded by Mr. Lizars, another by Mr. King, the third fell under the cognizance of Dr. Richard Bright), the abdominal muscles and the peritoneum have been slit open, for the purpose of extracting a diseased ovary,—when no disease existed.

But of late, a modification of the process of excision—whereby it is adapted to certain forms or conditions of the disease—has been proposed and practised; and holds out somewhat more of promise.

It consists in making, not a long, but a small incision through the walls of the abdomen, and through the peritoneum, so as to bring the surface of the diseased ovary into view. The cyst is then secured, by means of a tenaculum, or of a ligature, from receding inwards, and punctured, and its contents are suffered to escape. When the sac has emptied itself, it is withdrawn through the external orifice by gentle traction, until its stalk, or place of attachment to the broad ligament, comes near the wound. A thread is tied round this stalk, the cyst is cut off, the uterine appendages are put back into the cavity of the abdomen, and the lips of the wound are brought together.

Although this method does not appear to have been actually *performed* till very recently, it had been *suggested* as long ago, at

least, as the time of Dr. William Hunter, who, in a paper on the disease, has these remarks. "If it be proposed, indeed, to make such a wound in the belly as will admit only two fingers or so, and then to tap the bag, and draw it out, so as to bring its root or peduncle close to the wound of the belly, that the surgeon may cut it without introducing his hand, surely in a case otherwise so desperate, it might be advisable to do it, could we beforehand know that the circumstances would admit of that treatment."

In these few sentences, Dr. William Hunter not only describes the mode of excision, but alludes to circumstances that may render it inadmissible, as well as to the uncertainty that may arise about the existence of those circumstances. What the circumstances are is sufficiently obvious.

However, this suggestion has been carried into successful practice by Mr. West, Mr. King, and others. To an interesting paper on the subject, published by Mr. Gorham, in the *Lancet*, is appended a summary account of ten cases; by which account it appears, that five of the ten patients were cured by the operation; two recovered from the attempt to extract, which was unsuccessful; two died very soon after the operation, and evidently in consequence of it. The remaining patient, whose case has already been adverted to, recovered also from the incision; but there was no diseased ovary to amputate: so fallacious, sometimes, is the diagnosis.

This mode of operating merits careful consideration, and further trial. Its recommendations are—

1. That the first steps—the incision and the puncture—are the same in kind as the first steps in ordinary paracentesis, and not much more severe or dangerous; the only difference being that the incision requires to be somewhat larger in the one case than in the other.

2. That, when successful, it affords a complete and permanent cure, which can hardly be hoped for from any other plan.

The objections to its general use are—

1. That the single sacs, with thin and flexible walls, do not, commonly, reach a very large size. When small, or of moderate dimensions, they produce so little distress or inconvenience, that an operation, which must always be uncertain and tentative, ought not to be recommended.

2. That the multilocular tumors, with solid walls and partitions, can scarcely be so drawn through the opening made into the abdomen.

3. And above all, that adhesion of the tumor to the neighbouring parts would interfere with and prevent the success of the operation.

In most, however, of the five cases of cure referred to by Mr. Gorham, the sacs thus removed were large. From one of them 12 pints of fluid were let out; from another, 27 pints; from a third, upwards of 20; and from a fourth, 24 pints.

It is difficult to guess beforehand whether the tumor be attached to the parts surrounding it or no. If it be readily moveable by the fingers applied to the surface of the belly, so as to admit of being pushed hither and thither without pain or distress to the patient, it is probably unadherent. In one of the same five cases, the patient being in labour, Mr. West found that the tumor lay between the uterus and the brim of the pelvis. By gentle pressure, *per vaginam*, it was made to recede into the cavity of the abdomen. This afforded a presumption that it was free from adhesion; accordingly the sac was afterwards easily excised. The tumor is attached anteriorly to the peritoneum lining the front of the abdomen more frequently than to any other part. This Mr. Gorham attributes to partial inflammation produced by the puncture in the operation of tapping; hence the presumption that the cyst is loose is, *cæteris paribus*, the stronger, when paracentesis has never been performed.

If this mode of excision should be thought advisable, it ought to be attempted while the tumor is yet of moderate bulk, before the peritoneum has been much stretched, and while the chance of adhesion is the least.

To the simpler operation of tapping, the contrary precept applies. Neither in ascites, nor in ovarian dropsy, should paracentesis be resorted to, until it seems absolutely indispensable. To this rule there are, in my opinion, very few exceptions.

The operation itself, though commonly esteemed a trivial one, is not without its dangers. The instances are not few in which it has been followed by fatal peritonitis, excited either by the mere passage of the lancet or trocar through a previously unhealthy membrane, or (in the case of ovarian dropsy,) by the escape of some portion of the contents of the cyst into the cavity of the abdomen. Formerly, the rapid evacuation of a large quantity of liquid from the belly was often attended by terrifying effects; fainting, convulsions, almost instant death. This made the ancient physicians afraid of the operation: and when they could no longer avoid it, they let the accumulated fluid out by little and little, and at short intervals.

The cause of these alarming symptoms is now well understood, and easily obviated. They were owing, doubtless, to the sudden removal of the pressure to which the viscera and large blood-vessels had been for some

time submitted and accustomed. For this explanation of the fact we are indebted to the sagacity of our celebrated countryman, Dr. Mead, who was the first to suggest that external compression should be substituted, in lieu of the tension taken off by the operation. The complete success of that expedient fully justified his ingenious opinion; we now drain the cavity of its liquid contents without scruple or delay. A sheet, or broad roller, is thrown round the patient's body, and tightened as the fluid escapes, so as to maintain an equable pressure, which is continued for a while, and at length gradually withdrawn.

Other casualties occasionally happen; the trocar has sometimes pierced the intestine. In one instance which I myself witnessed, clear serum issued for some time through the canula, but at length pure blood; not less than a pint. The patient sunk: and no opportunity was given to investigate the cause of the bleeding. In another strange but well-authenticated case, the almost incredible quantity, 26 pints, of blood flowed out at the orifice made by the trocar, and afterwards separated into clot and serum. To the wonder of those who saw the incident, this patient recovered from the tapping; and the source of the hæmorrhage is still a matter of conjecture.

And apart from these mischances—which, after all, are not of frequent occurrence—you must bear in mind that paracentesis can seldom be contemplated as a mode of cure, but simply of temporary relief from distress. A few instances have happened where the liquid has been drawn off, and has not again collected; but such cases are very few. So, also, according to my experience, are those, much talked of by authors, in which the kidneys resume their activity upon the removal of the dropsical fluid. Ordinarily, the liquid re-accumulates, often with more rapidity than before; and again, and again, the hazards and the inconvenience of the operation must be repeated: wherefore, in my judgment, paracentesis in abdominal dropsy ought not to be performed, unless the quantity of liquid is so great as to occasion painful distension; or causes great distress of breathing by its upward pressure against the diaphragm; or gives rise to some positive suffering or urgent inconvenience, which the evacuation of the water may be expected to remedy.

Acupuncture of the dropsical abdomen has of late been recommended; and cures, thus effected, have been announced. It is said, or supposed, that the enclosed liquid, oozing gradually into the cellular tissue of the integuments of the abdomen, is thence removed, gradually, by absorption. Of this method of treatment I have no practical knowledge.

It is seldom that tapping is many times performed upon the same person, when the complaint is mere passive ascites. The dropsy returns indeed, and again the operator is required; meanwhile, in most cases, the health and strength rapidly deteriorate, and the patient sinks.

The same speedy declension and early death occur sometimes in ovarian dropsy, also; yet the operation commonly bears to be repeated more often than in ascites, without serious detriment to the general health. Sometimes the liquid re-accumulates in the cyst very quickly, sometimes slowly; in a very few instances not at all. I have had under my own care a patient who had been tapped for this disease thirty-eight or thirty-nine times. Extraordinary examples of a similar kind are on record; one or two I may mention as specimens.

Dr. Mead narrates the case of a lady, who, “for the information of posterity, ordered, by her will, that the following English inscription should be engraved on her monument, in Bunhill Fields.”

“Here lies Dame Mary Page,
Relict of Sir Gregory Page, Bart.
She departed this life, March 4, 1728,
In the 56th year of her age.
In 67 months she was tapped 66 times:
Had taken away 240 gallons of water,
without ever repining at her case,
or ever fearing the operation.”

Among the authenticated instances, the most remarkable that I have met with is detailed in the *Philosophical Transactions* for 1784, by Mr. Martineau, who was at that time surgeon to the Norfolk and Norwich Hospital. An abstract of the case is given in the printed catalogue of the Hunterian Museum, where the cyst is preserved: it belonged to the left ovary of Sarah Kippus, a widow, 55 years old. “The complaint began after a miscarriage, at the age of 27. From the year 1757, to August, 1783, when she died, she had been tapped eighty times, and had, in all, had taken from her 6631 pints of fluid, or upwards of 13 hogsheads. 108 pints was the largest quantity ever taken away at any one time. But after death, Mr. Martineau could not make the sac contain more than 50 pints.”

Upon the whole, it may be stated of this operation, as applied to ovarian dropsy,

1. That when it is essential to the comfort and continued existence of the patient, it brings sensible relief to her distress, and often materially prolongs her life.

But, 2. That when it is performed under less pressing circumstances, it tends to shorten the patient's days. Dr. Bright is of opinion that the number is small of

those who survive the first tapping more than four years. A respectable woman having very large ovarian dropsy, entered the Middlesex Hospital, under my care, for the express purpose of being tapped. The tumor incommoded her by its bulk and weight, but in no other way; and she had carried it for thirteen years. I felt that I should not be justified in sanctioning the operation in such a case. The patient was made to understand that the performance of it would not be altogether free from immediate danger; and that if she went through it safely, the swelling would return, and the same kind of remedy again become equally necessary. She was instructed how to suspend the heavy overhanging abdomen by a sling passing over her shoulders. There appeared no reason why she should not continue in good health for another period of thirteen years.

I am aware of another instance, in which a woman, similarly burdened, but otherwise in comfortable health, has lived, not without enjoying life, between twenty and thirty years. Had she been tapped when the mere enlargement might have seemed to justify the operation, she would probably have been for twenty years in her grave.

NOTES FROM CLINICAL LECTURES,

*Delivered during the present Session,
at Univers. Coll. Hospital,*

By C. J. B. WILLIAMS, M.D., F.R.S.

Professor of the Practice of Medicine,
and of Clinical Medicine.

Reported by J. D. HEATON, M.B., Lond.

Typhus.—Congestio Hepatis.—Bronchitis.

DANIEL COOK, aged 23, admitted Dec. 14. A labouring man of middle stature, rather florid complexion, dark hair, and robust appearance. He has generally had good health; and has not been subject to a cough. About a fortnight ago, he came to London, having walked 70 miles in two days. On the second day of his journey, he was exceedingly fatigued, and had but a scanty supply of food, having spent all his money.

Before he arrived in London, he became very ill, being seized with shivering and a feeling of great debility, so that he was unable to proceed for some time. Since he came to London, he has remained ill, but without much change of symptoms; he has been much confined to bed, and quite unable to walk or take any exercise. His principal symptoms have been great lassitude and debility, dulness of the senses, pains in the limbs, some headache, but not severe. The skin has generally been hot and dry, but occasionally he has perspired freely. He

has had great thirst and complete loss of appetite. The bowels have been kept open by aperient medicine. The urine is high coloured and very turbid. About a week ago, he began to have a cough (from which he was quite free previously), which has continued up to the present time.

At the time of his admission, the general symptoms were very similar to those above described. The skin was dry, but not very hot; he had much pain in the limbs, but not much headache; his answers were given slowly but coherently.

Tongue red at the tip, covered with a thick moist grey fur posteriorly. Pulse 110, rather sharp. He had been sick, and vomited for the first time on the morning of his admission.

On examining the chest, the stroke-sound was good under both clavicles, rather more resonant under the right than the left; and, in the former situation, it had a rather tubular character, as if from some compression or consolidation of the vesicular tissue.

There was great dulness at the lower part of the right chest, but this seemed to be hepatic, rather than owing to liquid effusion, as it was not altered in its situation by change of posture, and the stroke-sound along the side of the chest below the axilla was very resonant, even as he lay on the back. There was an evident fulness over the lower right ribs in front, but the hepatic dulness did not extend below the margin of the ribs. There was some tenderness over this fulness, and over the right hypochondrium, especially on pressing upwards under the margin of the ribs. The breath-sound is heard in all parts of the chest, and even low down in the right lung; but it is obscure, and mixed with sibilant and sonorous rhonchi, though without crepitation. There is some bronchophony in the middle of the right chest in front.

He has very little pain in the chest, and can lie equally on either side.

Lateri dextro admoveantur cucurbit. cruentæ, sanguine exhausto ad 3x.

Horâ somni sumat Hydrarg. Chlor. gr. iij.; Cras mane habeat Haust. Sennæ.

Ter die sumat Hydrarg. c. Cretâ, gr. iij.

R Sodæ. Tart. ʒj.; Sodæ Sesquicarb. gr. x.; Aquæ, ʒj.; M. ft. haustus ter die sumendus.

This case, at its commencement, presented most of the characters of continued fever; yet all these symptoms might arise merely from excessive fatigue, which, in fact, produces a sort of low fever, in which many internal organs are more or less congested, and their functions oppressed; and in a few

days, as reaction is established, one or other of these congestions becomes converted into acute inflammation. I remember two cases of this kind which occurred last year. One was that of a boy at school, who had overwalked himself. He had shivering, followed by fever and delirium, and was supposed to have fever with cerebral complication. When I first saw him, he was still delirious, and the tongue was brown and dry, but, on examining the chest, I found the signs of commencing inflammation in the lungs; and as this local affection became more developed, the cerebral symptoms subsided, the patient became rational, and he complained of pain in the chest, of which he had before been unconscious. In the other case, there had been shivering, followed by low fever, and great hebetude of the senses, dilated pupil, and a brown tremulous tongue, with signs of congestion of the liver and lungs: but these symptoms all subsided in a few days, after the loss of a few ounces of blood, free purging, followed by an acid tonic.

In the case of Cook, however, I had suspected from the first that there was something more than the simple effects of fatigue; that this had predisposed him to suffer from some malarious or infectious cause of continued fever; and that this fever was complicated with visceral congestion. It was clear that the dulness in the lower part of the right side was owing to something not above the diaphragm, but below it: the dulness was much more marked on forcible than gentle percussion; and the breath sound was audible in this part, showing that the dulness was not owing to liquid effusion pushing away the lung: there was no crepitation in the part, showing that the dulness was not from pneumonia or capillary bronchitis. But, though the liver was enlarged upwards, and prominent, it did not extend below the margin of the ribs. In persons with broad chests, the liver may enlarge upwards instead of downwards. Now this enlargement of the liver upwards not only renders the lower part of the right chest dull, but, like other causes pushing up the lung, it may increase the resonance of the right chest in the upper part, giving at the same time a raised pitch to the note. Thus, too, you may have some degree of bronchial respiration and bronchophony in the middle regions of the chest from subdiaphragmatic tumors pushing and compressing the lung. But, besides these symptoms in connection with the liver, there were signs of bronchitis, viz. some obscuration of the breath sound, and the sibilant and sonorous rhonchi in the middle and upper parts of the chest. For these congestive and inflammatory complications, although even at this

time I suspected fever, yet I considered that depletion was required. The measures prescribed diminished the fulness of the liver, but the cough and bronchial complication increased. Although there were still the dulness and confused answers of fever, the pulse retaining fulness and strength, and the tongue being still moist, I ventured to order venesection to the amount of ten ounces. The blood was slightly buffed. After this the local symptoms were much relieved, but the febrile symptoms became more pronounced; they were more typhoid; he was delirious in the night, and more stupid during the day; the face was hot and flushed, yet the pulse was weaker, and there was greater depression; the tongue was more brown, and sordes was collecting on the teeth. These symptoms required a change in the treatment.

20th.—The depression increased, and the surface cool; the delirium occurred each night; the pulse frequent and full; the tongue dry as well as brown.

Ammon. Sesquicarb. gr. iij. were added to the mixture; the mercurial was ordered to be given once daily instead of three times; and he was allowed three ounces of wine and a pint of beef-tea daily.

As a proof that the change of treatment agreed with him, we find that his nights became more tranquil, and the pulse gradually became less frequent, though it acquired more volume. On the 22d he again appeared weaker, and the wine was increased to six ounces daily. He remained much in the same state for several days; but on the 27th he was much more quiet; the countenance was more natural; his manner was more collected, and the pulse reduced below 90; the tongue was less brown and less dry. The tongue is one of the points to be first looked to: improvement being marked at an early period by the tongue becoming moister. He was less thirsty, and enjoyed his wine and beef-tea. At this time too the skin became moist; and there was a copious lateritious deposit in the urine. All these were favourable signs.

On the next day, however, the 28th, he was more depressed; the pulse was more frequent and feeble. He was still taking the saline, to which ammonia had been added; but I now omitted it, thinking that even this little matter might cause depression. The change, I think, was beneficial.

On the 30th a nitro-muriatic acid mixture was prescribed. But as he had some cough, and mucous rhonchus was heard mixed with the breath sound on the right chest, a blister was applied to the right side, and the wine was rather reduced. On the 1st of January the pulse was only 76, but extremely feeble. The wine was again increased to six

ounces. On the 4th his chest was better, and his continued weakness induced me to add quinine to the mixture. Under this treatment he speedily improved, gaining more strength: the wine was discontinued, as he ceased to care for it, which is generally a pretty good proof that it is not needed. Since this the improvement has been such that he will soon be sufficiently well to be discharged.

But there is one exception to his complete recovery: we have examined the chest from time to time, and found some dulness of stroke-sound, more on the right side than the left, still continuing, and now principally in the upper part of the chest, which is an unfavourable sign. Had this been the result merely of febrile congestion, it would have been in the lower or posterior parts, and would have gone away with the fever. Besides this, there is a difference in the character of the respiratory sounds on the two sides; the breath sound being more bronchial on the right, and the expiration being louder and more prolonged. These signs show that the fever has left something, most probably a scattering of miliary tubercles, which is a very common result of fever complicated with bronchitis or pulmonary congestion.

He will apparently get quite well; he seems almost well at present; and yet at some future period the tuberculous disease may run its course. There is some reason, however, to think that tubercles produced in this way may be removed. The best thing that can be hoped for him is, that he may continue well till the summer months, when the continued warm weather will save him from the risk of arousing the latent disease by inflammatory attacks; and will also, by improving his constitution, place him in circumstances more favourable to the quiescence and removal of these local deposits.

Hæmatemesis; melæna; anæmia; ulceration of the cornea.

Ann Barker, aged 41, admitted Jan. 4th, 1842; a widow, cook in a gentleman's family, moderately stout, with dark hair; complexion now very pale and sallow, though, she says, before the commencement of her present illness, she had a good colour. She has never had children. The catamenia ceased about four years ago, without causing any disorder of her general health. Some years ago she was subject to indigestion, and three years ago she had piles, but has latterly enjoyed very good health. She has lived well and regularly. She has occasionally taken a little spirits, and she acknowledges having taken more than usual before Christmas.

On Christmas day—being previously quite well—she was lifting a large piece of meat

out of a pot on the fire, at arm's length, when the meat slipped, and in her effort to save it she strained herself. This produced a sudden pain in the lower part of the chest, which soon subsided, and she followed her employment during the day. The next day she was still able to do her work, but felt very sickly, and had a sensation of oppression at the stomach. Early the next morning, while she was in bed, she awoke with a sensation of suffocation, and found her mouth full of blood, and, on rising, she discharged as much as a pint of pure blood without any effort of vomiting, though she had much nausea. During that day, and the two following, she felt faint and weak, with a sensation of a load at the stomach, but did not part with any more blood. On the 30th she again brought up a very large quantity of blood (she says some pints); and since then, up to the present time, she has discharged smaller quantities of blood repeatedly. The blood has generally been almost pure, dark, and partly clotted.

Between Christmas day and the 30th the bowels were not moved; but, on the latter day, having taken some castor oil, she had a very copious stool, and quite black; and since then, all the stools that she has passed have had the same character.

The frequent loss of blood has rendered her extremely weak; and this great debility now is her chief complaint. Besides this, she has a sensation of weight and slight pain at the epigastrium, and there is considerable tenderness there. Not much epigastric pulsation is perceptible. When she sits up, she has a sensation of dragging at the epigastrium. She feels giddy, and a tendency to faint on rising; she fainted repeatedly yesterday, and once this morning. The face is blanched, the lips are pallid, and the fingers pale and contracted. The tongue is very pale, and covered with a thin white fur. Pulse 130, very small and feeble.

She has no cough, nor has she ever been subject to this, nor to pain in the chest, nor shortness of breath. The sounds of the heart are short and flapping, but without any murmur. There is slight dulness of stroke-sound under the left clavicle.

I have, more lately, again examined the chest, and been unable to find any irregularity of stroke-sound in the two sides. We must remember, however, how common it is for a slight condensation to occur at the apex of the lungs; and, if there is any thing of this kind, it is much more perceptible in anæmic patients, when the lungs are drained of blood, and consequently more light and porous. You had an illustration of this in a fatal case of hæmatemesis which occurred at the beginning of the session. In that case there was slight condensation and

contraction at the apex of one lung. Little as this was, it corresponded with the spot in which during life I had found perceptible dulness. Had the lungs been less drained of blood, I scarcely think so slight an amount of disease could have been discovered during life.

There was no difficulty in pronouncing what was this patient's chief complaint. Besides the history of loss of so much blood, her waxy cheeks, lips, and gums, betokened anæmia; and the faintness, giddiness on rising, and extreme weakness, showed how much the functions suffered from the loss of blood.

It was another question, what was the source of the hæmorrhage. This was not very obvious. There can be no doubt, I think, that the blood came from the stomach, not from the chest; there had been no cough, dyspnoea, or other pectoral symptoms previously; the blood was dark and not frothy: whereas there had been symptoms distinctly referable to the stomach, in addition to which the black colour of the stools, from intermixture with altered blood, constituting melæna, showed that the blood was in the intestinal canal. But what was the cause of the hæmorrhage? In the case to which I have just now referred we found a chronic ulcer in the stomach, which had opened an artery of considerable size: the preparation of that stomach is now in the museum; and you may there see the open ends of the vessel in the ulcer. But the subject of that case was an habitual gin-drinker, and there must have been symptoms of chronic gastritis during life. Here the only complaints previously had been some dyspeptic symptoms, and piles three years ago and upwards, but not of late. She had taken spirits rather more freely than usual previously to her illness; and although this could scarcely cause ulceration, it is quite adequate to produce congestion of the stomach and liver too.

We often find that hæmorrhage from the intestinal canal, and from the kidneys, does take place after strains, without any proof of mechanical injury to the internal parts. We can only suppose the muscular strain to act by pressing on distended vessels, to such a degree that they give way in parts and exude blood. The effort in which this woman strained herself, was one particularly likely to produce this effect; in a sudden attempt to seize at arm's length a heavy weight, the abdominal muscles would violently press on all the contents of the abdomen, and this pressure would be most felt in any part, the vessels of which were full and previously weak. Remember, also, the large extent of vessels on which such pressure would act, viz. the vessels of the liver, and all the veins which contribute to

form the portal system; and remember the absence of valves in these veins,—and we shall seem to have a sufficient explanation why some might give way and hæmatemesis result.

When she came under our care the discharge of blood had ceased, and the state which chiefly required treatment was the anæmia. For this anæmic state, iron is the most proper remedy, and I chose the muriate of iron on account of its slight styptic property, which might remove any remaining tendency to hæmorrhage. On account of the nausea, I began with a small dose, only $\mathfrak{m}\mathfrak{v}$. with a little hydrocyanic acid; but the muriated tincture was soon increased to $\mathfrak{m}\mathfrak{x}\mathfrak{x}\mathfrak{v}$. thrice a day. In addition to this I prescribed an acid saline aperient, to promote the natural secretions, and remove any remains of the altered blood in the intestines.

Rx. Acidi Sulph. Dil. $\mathfrak{M}\mathfrak{x}\mathfrak{x}$.; Magnes. Sulph. $\mathfrak{z}\mathfrak{i}\mathfrak{j}$.; Aquæ Menthæ; Infusi Quassia, aa. $\mathfrak{z}\mathfrak{j}$. M. ft. haust. omni mane sumendus.

Horâ sumni sumat Hydrarg. cum Cretâ, gr. iv.; Pulv. Ipecac. Co. gr. iij.

So soon as the stomach would bear it, and the appetite returned, she was allowed more food; she had a chop daily, and a little porter. She has gradually gained strength and colour. There has been no return of hæmatemesis since she was admitted into the hospital.

But one of the effects of loss of blood has been manifested in the cornea. The right eye became very painful, and watered much; and two small ulcers formed in the cornea, without any appearance of vascularity around or in the conjunctiva. It is not uncommon to find, in cachectic ill-fed persons, spontaneous ulceration of the cornea without any other signs of inflammation, but with much irritation, as was manifested in this case by the pain in the eye, the contracted state of the pupil, and continued lachrymation. I consider this ulceration to be an effect of the excessive loss of blood which this patient had sustained, or rather of the imperfect textural nutrition arising from this cause. But why, of all textures of the body, should the cornea be the first to suffer? That it is so, you may know from the experiments of Magendie, who found that dogs fed exclusively on sugar, which is unfit to nourish them, became affected with ulcers of the cornea. So far as the latest researches go, it would appear that the cornea is not vascular, and it must receive its nourishment by imbibition from the fluid effused from the neighbouring vessels; and this may be a reason why, being more remote from the source of nourishment, it should soon suffer when that source fails.

With this view of the cause of the ulceration, you will understand why, instead of

treating it as inflammatory, I prescribed merely a weak nitrate of silver wash with a little extract of belladonna to allay the irritation: sulphate of quinine was added to the steel mixture, and her diet was further improved. The progress of the ulceration was soon arrested, the eye became less painful and irritable, and it is now nearly well, except slight opacity where the ulcers are filling up, and a corresponding cloudiness of vision of that eye. Most probably these specks will remain; in all other respects she will soon be well, and fit to leave the hospital. (She was dismissed shortly after with a very trifling cloudiness in the eye; and her colour, flesh, and strength, pretty well restored.)

Amenorrhœa.—Anæmia.

The cause of anæmia in the last case was sufficiently clear. The next patient to be noticed was also anæmic, and under circumstances which very commonly produce that condition in young females; how they do produce it is by no means obvious.

Catherine Douratt, age 21; admitted Jan. 8, 1842, single: of middle stature, moderately stout, formerly had a good colour, but is now quite pale. She has been in service, but was obliged to leave her situation about ten days ago, in consequence of her state of health. Her general health has previously been good.

A little more than a month ago, when the period of menstruation was approaching, she exposed herself suddenly to cold by rising from bed in the middle of the night to let some person in at the street door. She went back feeling very cold, and the catamenia did not appear; though they had occurred quite regularly previously, only having been rather more scanty than usual for some months. After this exposure to cold, she became dull and listless, and has been subject to much pain in the head, with palpitation at the heart.

These symptoms have continued up to the present time; she has gradually lost her colour; she frequently feels giddy, especially on rising. The catamenial period has just passed over a second time without the appearance of the menses. The pulse is 90, liquid and jerking. Complexion pale, with an occasional pink flush in the face. Bowels costive. There is a murmur with the first sound of the heart, heard at the midsternum, and slightly in the carotids, but not at the apex. A continuous (venous) murmur is heard over the right clavicle when the patient sits up. Both these are signs of a thin quality and scanty quantity of the blood.

This is a case of very common occurrence in London, anæmia originating with amenorrhœa, and it shews how the function of the uterus seems to be connected in some way

with the process of blood-making. In what manner this is we cannot tell: from reasoning only we should rather have supposed that the arrest of the menstrual secretion would have increased the fulness of the vessels, and caused plethora instead of anæmia; but we find the reverse to be the case in most instances. In some cases the amenorrhœa may be considered a consequence of the anæmia, the patient gradually losing colour, and the catamenia becoming more and more scanty and pale-coloured, and at last ceasing. In others again, as in the present example, the periodical discharge has been suddenly checked by cold, or fright, or some other cause, and from that time the patient begins to lose colour and strength, and to complain of short breath, palpitation, and other symptoms of anæmia, sometimes combined with very remarkable nervous disorders.

In this case, whether the exposure to cold at first produced any inflammation or congestion of the uterus we cannot say; there have been no symptoms of such an affection since the patient came into the hospital. The complaint being altogether anæmia, with paleness, giddiness, palpitation, and all the usual symptoms of that state, the treatment has been directed with the view to fill the vessels with red blood, and to keep the bowels open with aloetic purgatives, which tend also to promote the action of the uterus. The medicine given was the iodide of iron.

℞. Ferri Iodidi gr. ij.; Tinct. Humuli, Syr. simpl. aa. ʒi.; Mist. Camphoræ, ʒi. Ft. haustus ter die sumendus.

Under this treatment she has gradually regained colour and strength; but as the vessels began to fill, she complained of various pains, in the head, in the right side, and in the back. The natural relief to these pains will be the proper periodic discharge, and the treatment will be continued with the view to promote this. In the meantime the pain in the right side at one time became so severe that I was obliged to apply a few leeches to relieve it. Since then the pain has been more in the back, which is nearer the proper direction. I shall now order the hip bath to be used every night; and if this prove insufficient to bring on the catamenia, a little blood will be drawn, by leeches or cupping, from the lower part of the back, or from the thighs, as bleeding from these parts often excites the uterus into action.

(A few days after the patient was cupped on the sacrum to ʒiv., after which, with the use of the hip bath and the decoct. aloes comp. the catamenia appeared, and she was dismissed cured, in the first week in February.)

ON
ARTIFICIAL CLIMATES,

FOR THE RESTORATION AND PRESERVATION
OF HEALTH: TO BE CONSIDERED UNDER
TWO HEADS.

I. *The atmospheric treatment of the lungs.*

II. *The atmospheric treatment of the lungs and skin.*

BY JULIUS JEFFREYS, F.R.S.,

Late, in the Medical Department of India, Staff-Surgeon of Cawnpore, Civil Surg. and Superintendent of Vaccination at Futteygurgh, &c.

(Continued from p. 822.)

(*For the Medical Gazette.*)

PNEUMONITIS, croup, laryngitis, and bronchitis, are the diseases which have long appeared to me to stand greatly in need of this treatment; especially the two former.

In the case of pneumonitis, the most pathognomonic symptoms have their character greatly modified by the hygrometric state of the air respired. In an atmosphere of ordinary dryness, as in the ward of a hospital, we have in this disease, in the first place, a respiration of twice, and even thrice, the natural quickness, and short in proportion.

It is not the pain attending the inflating of the lungs which alone causes this shortness of breathing, for it is present in cases where there is little pain. The swollen state of the membrane affected, arising from the turgid condition of its vessels, must, no doubt, be concerned, as is supposed by Doctor Weatherhead* and others, in producing the shortness of breathing; but this very state may, in a great measure, depend upon, or be aggravated by, the constant admission of air possessing qualities irritating to the morbidly sensitive membrane.

Such a comparison as that instituted between the pulmonary and other exposed surfaces, may assure us that in pneumonitis distress from exsiccation must be present to an extent which would account for any degree of embarrassment in the respiration. The rust-coloured tenacious sputa characteristic of pneumonia, and which follow the state of dry coughing, are just such as might be expected to proceed from

an inflamed membrane irritated by exsiccation. This secretion, it is well known, has nothing in it of a resolving action. It precedes any relaxation of the skin. It has long appeared to me to owe in part its gelatinous character and sanguineous tinge, to the effect of air sweeping over an irritated membrane, and aggravating its dryness, until the membrane is in such an injected state that lymph, tinged with blood, is thrown forth by vessels which, in a healthy state, ought to admit and to eliminate only a thin mucous fluid. The professional reader is doubtless aware of the important conclusions to which the inquiries of Doctor Addison* have brought him with respect to pneumonitis, namely, that it has its seat in the air-cells of the lungs, and is, in fact, an inflammation of the extreme portion of the pulmonary membrane, where it lines the cells. In this view he is followed by Doctor Hodgkin, who, in his able work on the mucous membranes†, appears to consider the evidence by which this point is established sufficient and satisfactory. Now bronchitis being an inflammatory affection of the same membrane less deep-seated, where it lines the bronchia, there would appear to be thus established a near alliance between these two diseases. Indeed, according to the views of some pathologists, the various affections of the mucous membranes of the respiratory organs are only modifications of one disease. Certain it is, that they are often so much modified by circumstances as to lose, in part, their distinctive character. It is a remarkable fact, that Huxham observed the same epidemic to be pneumonia on dry and elevated spots, but a bronchitis in low moist situations. The influence of moisture in the air in modifying the morbid action of the pulmonary surface is here curiously set forth; while it notably points out the importance of the hygrometric arrangements in our view. Whatever trouble might attend them, it would be no small reward for our labour if we could combine with active treatment measures which would not only prevent a return of severe symptoms in pneumonia, but would tend to resolve them into such as accompany a milder form of bronchitis. Here I cannot refrain from mentioning

* A Practical Treatise on the principal Diseases of the Lungs, p. 147.

* Med.-Chir. Trans., vol. vi. p. 148.

† Pages 88, 89.

a case which appeared to me of a very encouraging kind, considering the imperfection of the measure employed. Though not engaged in the practice of the profession, I was asked to visit a female of about 45 years of age, suffering under acute pneumonitis, which required active treatment. On the following evening, although the symptoms were moderated, there was still some pain, distressing cough, and dyspnœa, with a considerable expectoration of the characteristic sputa, so tenacious as not to be detached from the vessel in which it was contained, even when inverted, although there was a pint in quantity.

With the above views long upon the mind, I could not but desire to throw *humidity* as well as warmth into the air respired. The respirator is so constructed as to effect both these objects, and with great benefit in chronic cases, but I never contemplated its use in the acute stages of disease; nor is it, in my opinion, hygroscopic enough for our present purpose. In acute inflammation, the breath is too dry to yield sufficient moisture to the metallic wires for rendering the inward current humid. However, for reasons above stated, I preferred it to the temporary, too heating, and unequal action of any inhaler; and I accordingly applied one of full power. As the temperature of the room, owing to the severity of the weather, was low, the respirator condensed moisture from each out-going breath sufficient to lessen the dryness of each in-coming current, so as to produce a decided effect upon the symptoms. A considerable decrease in the dyspnœa and cough took place, and in the course of a day the sputa became changed in quality. They had lost their tenacity, and were now ropy, and expectorated with comparative ease. They partook of the character of the sputa of both bronchitis and pneumonitis. This effect obviously resulted from the uninterrupted respiration of air, moderately warm, and nearly at the dew point. It is, however, only under favourable circumstances, where the acuter symptoms are nearly subdued, that means such as these can produce so marked an effect; and I have mentioned this case, not to recommend the use, in the acute stages of disease, of an instrument designed for the chronic stages, however beneficial it is in these;

but as it stands forth an encouraging fact, shewing the power of such an atmosphere as we are in search of, even though imperfectly humid, when it acts *uninterruptedly* and *equably*.

In acute bronchitis, we may find reason for considering the exposure of the membrane to the action of the air a cause of irritation, even in a greater degree than in pneumonitis, since the seat of the disease being nearer to the entrance of the chest, subjects the membrane to recently-inhaled air, and also to a more sweeping movement of the air over it. Accordingly, in the acute stage of bronchitis, writers on this affection have noticed symptoms indicative of a similarly dry state of the membrane affected. The constricted state of the larynx and trachea, and wheezing, so well described by Dr. Badham in his able Treatise on Bronchitis*, and noticed by subsequent writers, together with the dragging downwards of the larynx during inspiration, observed by Dr. Cheyne†, do all exhibit the instinctive struggle made by those parts, which are, as it were, the portals to the lungs, to prevent the entry of air; irritating, doubtless, as in the case of other inflamed surfaces, on account of the drying it occasions. In the case of the last symptom, the downward motion of the larynx, it must be produced in the following manner. The demands of life requiring that air should come in, excite, by an antagonist impulse to the above, the muscles of inspiration to expand the chest. Hence the pressure of the air for entry forces down the larynx, which is resisting its entrance. The tardy and unwilling admittance of air is, I think, in a striking manner shewn by this symptom; and it proves that the air is itself a cause of distress, and not of comfort, to the parts.

The thick tenacious secretion often found on the membrane, in cases running a rapid course‡, and that form of bronchial polypus unattended with hæmoptysis, resembling the secretion of croup noticed by Dr. Cheyne§, seem also to point out a condition such as might be expected from an *exsiccation*

* Pages 53 and 54.

† Pathology of the Membrane of the Larynx and Bronchia

‡ Hastings on the Mucous Membrane; Badham on Bronchitis, and others.

§ Edin. Med. Journal, vol. iv. p. 441.

of the membrane, and thus form a connecting link between this disease and both pneumonitis and croup. In a case of severe catarrh in a stout female, which very lately came under my observation, I had to witness effects attributable mainly to the moistening power of the respirator, which were as remarkable as in the case of pneumonia already noticed. The symptoms had extended themselves to the chest, with bronchial distress, incessant cough, and much dyspnœa; but the febrile symptoms were not yet high in proportion. After other treatment, diaphoretics were employed; but though sickness was induced, there was no relaxation of the skin. Two hours after the application of a respirator of full power, she expressed a sensation of commencing relief, and in less than twelve hours more the most distressing symptoms had subsided; the expectoration was loose, and even thin; the cough was almost gone; and there was a free perspiration on the skin. The complaint was in fact cut short, for she rose the following day, and continuing to wear the instrument, commenced, though weak, to attend to her usual employment. I believe she wore it night and day for three or four days more before leaving it off. If in this mild form of acute bronchitis such effects resulted from the treatment in so modified a form, designed for the chronic stages of disease, might it not in acuter disease, when carried out in a manner proportioned to the severity, be expected to prove of proportional value?

It is true that in fatal terminations of bronchitis an opposite condition to dryness is oftentimes concerned in producing death; as where the disease concludes its work by deluging the lungs with a watery secretion, which causes suffocation; but we shall find the tendency to this, for the most part, proportional, *cæteris paribus*, to the previous inflammatory excitement. Thus, although in the extremes of infancy and old age, and in peculiar constitutions, that debility in the smallest vessels is readily induced which gives rise to the copious effusion, the laws of animal life assure us that this debility, in the case of any one individual, will be proportional to the previous excitement; and attentive observation will always prove it so. In proportion as we can employ measures at the first,

the power of which in lowering excitement is considerable, while their tendency to induce debility is small, we invariably find the final debility to be lessened, while it is aggravated by every irritant which heightened the previous excitement.

It were well if for such cases we could command an atmosphere freed from mechanical impurities, and carefully tempered to that degree exactly of warmth and moisture adapted to the case, and maintained very steadily at the same, excepting when nicely varied to suit any change of the symptoms. Aided by the soothing influence of such an atmosphere, we might find the general treatment requiring to be carried to a much less extent than at present to produce equal effects.

Again, in the less numerous cases, where a large secretion takes place in the *active* stage of bronchitis, there is every reason to view this effusion as occasioned by that high degree of excitability to be found at times in secreting organs, which will cause them to send forth a gush of fluid each time they are acted on by an irritant, and even to be thus affected over their *whole* surface, when its action is confined to *one* spot only. The application of this fact has been well made by Dr. Hodgkin* to account for a morbidly increased secretion from a membrane actively affected. Now we shall find that not only cold and damp, but very dry air, will often produce this effect, as upon the eye, inducing a gush of tears, or on the nasal membrane, when irritated, causing a running at the nostrils. I have known persons affected, with what passed for a severe cold, by the intensely dry air of the hot season of the western provinces of India.

As already remarked, when we bear in mind the great difference of effect from the small differences of temperature which constitute the cold, the warm, and the hot bath, and that the object before us is one requiring great nicety for realizing its important effects; and when we contrast with these points the very irregular action of measures now in use, and further consider that any of these means are applicable only at intervals, while an *uninterrupted* operation must be viewed as *essential* to the very principle of our

* Lectures on the Mucous Membrane, p. 64.

object, we are, I think, compelled to consider the effective treatment we are now in search of to be unattainable by any means we now employ.

We are thus led to the second inquiry after suitable means for giving operation to what may be termed the atmospheric treatment.

Under the conviction that it is only necessary for the importance of the object to be duly impressed on our minds, to ensure very soon the devising of suitable measures for commanding it, it is not my wish to occupy much space by entering into a minute description of any apparatus I might think the best for the purpose; but the reader will allow me to make a few remarks which may place in a very practicable light the treatment desired. Instead of any inhaling instrument, useless for our present purpose, or of the neat apparatus of Dr. Corrigan, well adapted for its peculiar object, but quite unsuited for the present; instead also of the chamber judiciously suggested by Dr. Williams, where a little vapour only is wanted to accompany a medicinal substance, like chlorine or iodine, which, as he states, "a saucer floating in hot water" may supply; instead of these means, however good for medicating, at intervals, the air respired in chronic cases, it would, I conceive, be desirable to throw a partition or diaphragm of boarding, or of air-tight cloth, across one end of the ward, so as to part off a chamber about four or five feet broad, into which the head of the patient should project while his body lay in the ward itself. A soft waterproof curtain might encircle the neck, and be suspended in such a manner that it should not hang within a foot and a half of the face, in order that the respired currents might pass freely to and from the nostrils. Any condensations upon that side of it might be conducted off by a fold formed into a little gutter, so that there should be no trickling of moisture over the neck. The chamber so parted off might again be divided by cross partitions to give each patient's head a distinct compartment. I am of opinion that the capacity of each compartment ought not to be less than 200 cubic feet, although the artificial atmosphere ought to be undergoing constant renewal, by being forced in above and drawn off below. Unless it were spacious, an unpleasant current would be felt, to prevent which

I would recommend that the air should be pressed in through a false ceiling or tent of open canvas. It would then ooze in over the whole surface, and should pass out below; and it might be renewed abundantly without any perceptible draught.

The atmosphere should be manufactured by an apparatus which drew fresh air from without through several screens of cloth or gauze of progressive degrees of fineness; that in cities all particles of solid matter might be mechanically removed from it. Any person who has tried the filtering of air for ventilation himself, or has seen the apparatus introduced by the late Mr. Oldham, in the note-room at the Bank of England, must be surprised that the lungs of persons in health can endure an unstrained city air, and must marvel at the subsidence of irritation, when once excited, in lungs which have no other air to breathe than such as is charged with dust and acrimonious particles of all kinds of organic matter. The quantity of impurities, which may be separated by such an apparatus, would astonish a person who has not noticed it; and a physician can hardly fail to desire that his pulmonic patients might be exempted from the necessity of breathing them.

The apparatus should have a provision for heating a *portion* of the air thus purified to any temperature under 200°, and for conducting another part of the purified air into the former in a cold state, in regulated proportions for reducing the temperature, and precipitating from it moisture, if desired, which had been taken up by the following means, so as to produce a warm cloud; also for correcting fluctuations in its temperature, arising from any unsteady action of the provision for heating it. These mixed currents of pure air, having a temperature higher in any determined degree than when they will be in the respiring chamber, might now be conveyed through the meshes of a very open retiform cloth, which might be made of cotton wick loosely wove, and previously boiled in an alkaline solution, to remove any native oil and other grease which would prevent its absorbing water.

Such a cloth is very bibulous*, and

* I have tried various kinds of web of different tissues made for experiments on evaporation, conducted on a considerable scale, which esta-

its capillary power is so great, that if the lower edge dip into water the whole surface up to the height of two, and if it be inclined, of four feet, will be kept wetted. This method of giving moisture to the air, by carrying it through a wetted net, I consider preferable, in some respects, to carrying it over heated water, or injecting into it jets of steam. The defect of both of these is, that they are liable to give too little moisture or too much heat with it to the air. The cloth would also perform an important part in abstracting from the air particles of recent smoke and dust too fine for any dry filter to detain, but which the moisture attracts and retains; and it would even condense many gases, of which the copious water on the cloth would retain the greater part, and the water evaporating at any time the smaller. Thus, if a succession of such cloths were employed, the purification might be carried so far as perhaps almost to convert city into country air. Nevertheless, in the absence of the cloth, either of the other methods, properly adjusted, might answer. The air may thus have any determined quantity of moisture given to it; and it might be cooled down to the temperature for the respiring chamber, which, for different cases and periods of illness, might have an extreme range from 50 to 150°. This for humid air would, I conceive, be a sufficient range. In like manner every degree of humidity ought to be at command from that moderate proportion of vapour, which would leave some degrees of dryness in the air, so that it could still carry off vapour from the lungs, up to a state of saturation, in which it would excite no evaporation. And, furthermore, not only should a saturated atmosphere be at command, but one even in which vesicles of precipitated vapour were suspended; in fact, a warm cloud, which, when inhaled, would supply moisture to the absorbents of the pulmonary membrane, while it demanded none from the exhalents. It is not possible, however, to form beforehand any exact judgment upon these points. When we consider the very different effects of baths differing little in temperature, we may, not without reason, anticipate the necessity of establishing the treat-

ment before us, upon a series of experiments, from which general rules might be deduced, to be modified, in each particular case, according to the judgment and experience of the physician. Thus, in some cases, where the symptomatic fever ran high, it might be possible and desirable *gradually* to lessen the warmth of the respired vaporous air, until it carried off much of the excess of animal heat. In this manner a temperature might by degrees be obtained, with relief to the patient, which could by no means be endured if suddenly induced, or if attended with any draught. This, however, is merely a conjecture. A safer plan perhaps would be to keep the *surface* of the body moderately cool, while the air respired was warm. I conceive it to be of much importance to separate the chamber in which the patient respired from the rest of the ward, that the lungs and the skin might be exposed to different atmospheres. We often find a fomentation to be very soothing to an inflamed part, at a time when a general immersion of the body in a bath of as high temperature would greatly aggravate any attendant fever. For this reason the surface of the body ought not to be subjected to a fomenting atmosphere required only by the lungs. Moreover, by favouring exhalation at the cutaneous surface, we might encourage absorption at the pulmonary, especially in cases where the antimonial treatment was employed. In these we might reasonably hope that a general relaxation, with determination to the skin and inward relief, would be materially aided by an arrangement in which one atmosphere, by removing the irritating demand of the air on the pulmonary membrane, and even favouring absorption on its surface, was giving effect to another atmosphere which encouraged exhalation over the cutaneous surface. How opposed to this is the state in which intense determination to the pulmonary surfaces, with a febrile constriction of their vessels, and by sympathy of the skin, is kept up by a power constantly acting to induce exsiccation of the former, and denying to the absorbents any the least moisture by which relief might be afforded to the parts directly, or by sympathy! In cases of croup, who will undertake to say that much aid might not be af-

lished to my satisfaction the power and steadiness of this kind of interstitial evaporation.

forded our treatment, if, throughout the acute stage, from its commencement, the air-passages of the little sufferer could be given a *free and uninterrupted* supply of a pure, tepid, saturated atmosphere?

I cannot refrain from mentioning a case related to me by a late practitioner of much experience, upon my stating to him this view in connection with croup. He said that on one occasion clothes hung to dry before a fire in a room in which a child lay very ill with croup, rendered the air humid throughout the night. The relief to the child's respiration was in the morning so great as to prove critical, giving successful effect to the active treatment he had employed. He appeared to entertain so little doubt that this simple cause gave the favourable turn to the disease, that it seemed surprising the views which this particular case ought to have suggested had not been followed out to the generalization they admit of. As to the humid climate thus formed, though happily advantageous in that case, the method by which it was produced was much too uncertain; and had the temperature been too low the effect might have been injurious. Moreover, it involved the skin as well as the lungs, which, as already stated, would appear a measure to be avoided. For such, and other acute cases in private dwellings, a portable apparatus provided with curtains extensible into a suitable chamber, might, I have no doubt, be contrived, with due attention to the points necessary for insuring its proper action.

The atmospheric treatment of acute diseases of the lungs, if followed into all its particulars, would form, I think, a very important subject of inquiry. It has been possible only to touch upon such of its chief points as are tangible by arguments, and by it can be so far realized in promise as to offer a strong encouragement to endeavours for reducing them to practice. I cannot but think that experience would disclose important effects from small variations of the artificial climate when acting with certainty, and steadily. I cannot overlook the fact, how changes in the weather, and how the air of particular localities, affect the type of diseases; how different an affection pneumonia itself is in the city, and in the country; nor can I doubt that, by due filtration of air, first through dry gauze, and then

through a wetted fabric (the latter to serve the double purpose of giving it vapour, and condensing many impurities of a gaseous kind), but especially by the various arrangements hinted at, for carefully regulating its condition as to warmth and moisture, we might find ourselves in possession of a powerful agent in the treatment of acute diseases of the chest. I would hope that enough has been said to preserve these measures from being involved in the doubtful reputation of inhalations. I am quite aware both of the commendations as valuable means, and the denunciations as nearly useless, which the latter have received from the earliest days of medicine. In recent times, we have writers of high respectability, as Doctors Hastings, Weatherhead, and others, in the latter category; while more recently still, we have in Dr. Harwood an advocate in the former, followed again by the writer of these pages, on the opposite side, who believes inhalations, meaning thereby the occasional presentation to the lungs of air modified by any inhaler, can never prove of much value in acute diseases of the lungs. The convictions in favour of an atmospheric treatment of *chronic* affections of the chest which have resulted in whatever of benefit the respirator has afforded to thousands, were not more strong than have long been those in favour of the atmospheric treatment of acute affections of the lungs, I have now ventured to advocate. Regardless of any pleasantry which may be excited by the idea of separating a patient's breathing-chamber from his body-chamber, I cannot, with the above views strongly impressed upon the mind, but desire to see the measures suggested carried into effect with every precaution requisite for success.

[To be continued.]

ON

INJURIES OF THE SPINE.

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(Continued from page 827.)

THE treatment of fracture of the spine is most important. It must be remembered that it is a double injury: not only are the vertebræ broken, but the

spinal chord and its membranes also suffer more or less: consequently we have not only to treat the mechanical lesion, but also the injury done to the grand nervous trunk. It is imperatively necessary that the injured parts should be kept quiet; for the least motion of them will not only add to the inflammation, but may cause immediate death. The patient therefore should be placed on the double-inclined bed (usually termed Mr. Earle's bed), whereby he can remain perfectly quiet, and it will not be necessary for him to move even to perform the natural evacuations. In addition to this a trap-door can be made opposite to the injury; so that leeches, blisters, issues, or any remedy that may be necessary, can be applied without movement. The necessity of perfect rest is of such great importance that it has often happened, from the neglect of it, patients have died suddenly, as will be seen by the following cases:—

CASE I.—A man having received a kick from a horse, upon the back of his neck, became instantly paralysed in all parts of the body below the injury. He was immediately carried to St. Bartholomew's Hospital, and in about twelve hours after the accident delirium came on. The surgeon desired that the head might be shaved, in order that the proper remedies might be employed. In doing this the barber turned the head a little on one side: the patient instantly fell from under his hand, and expired. Upon examination it was found he had fractured the third cervical vertebra, and that the sharp point of the fracture had pressed upon and wounded the *chorda spinalis*.

CASE II.—A man fell from a great height, and broke his neck. An officious nurse, in moving him up, as she thought to relieve him, let his head fall backward. He instantly expired. He had fractured the second cervical vertebra.

CASE III.—A third case occurred in this infirmary from diseased spine. A man affected with caries of the upper dorsal vertebræ sat up in bed to eat his meal. The bones gave way, and he fell dead immediately. The spinal chord was wounded.

All these cases occurred to my own knowledge, and from them it may be seen how necessary it is to keep the spine quite motionless, and more par-

ticularly when the accident happens in the neck. As soon as the patient receives the accident he ought to be placed on one of the double-inclined beds upon his back; and he should never, if possible, be moved, until there is sufficient reason to believe the fracture is united.

In fractures of the spine it often happens that the ring of one or more of the vertebræ is beat inwards in such a manner as to compress the medulla and its membranes. A question arises how such a fracture ought to be treated: whether, under these circumstances, the bony column of the spine ought to be trepanned, and the depressed portion of bone removed, as in fracture of the cranium, or not? The experiments that have been performed on animals certainly favour the opinion that such an operation might be performed. Baglivi and Pallasio have frequently trepanned the spine of dogs; and they have found, in many instances, that it did not appear to give rise to much suffering, or to affect the functions of the medulla, unless the *dura mater* was pricked, when convulsions were produced. Experience as yet, however, on the human subject, is rather against than for the operation. The spine, when a piece of fractured bone has been depressed upon the medulla, has been trepanned five times; and in all these cases the patients have died. In one case, where the operation was performed by Mr. Tyrrell, sensation immediately partially returned, but the patient died of inflammation of the bladder.

During the treatment it will be advisable to apply leeches, with the view of relieving the congested vessels both of the column itself and the chord and its membranes. Blisters also may be applied with great advantage when the active symptoms have subsided; and if the case becomes prolonged, a moxa may be made, and repeated occasionally, and issues employed. Should the bladder be paralysed, the urine must be drawn off twice at least in the twenty-four hours; and should the bowels be inactive, aperients must be administered as often as it is required to relieve them.

CASE IV.—The following case appears to me so curious, that I shall relate it at full length:—John Nicholls, æt.

31, a slight built man, while occupied in cleaning the windows of the first floor at a house in Edward Street, Portman Square, felt himself giddy; and fearing that he should fall into the area below made a jump of about fourteen feet, with a view of clearing the palisades, on to the pavement. He fell first upon his feet, and then on his buttocks, and was for a short period senseless. A crowd collected, and, happening myself to be in an opposite house, I immediately ran across to his assistance. By this time those about him had raised him from the ground, supporting him on his feet. He was extremely pallid, and complained of severe pain in his back, but he had walked one or two steps. He was immediately carried into the house, and laid upon a bed. I then examined him; his body was bent forward, and slightly twisted towards the right side. At the eleventh dorsal vertebra, the spine projected, and between the spinous process of that bone, and the spinous process of the twelfth dorsal vertebra, there was a chasm into which I could place with ease my two fingers, being in measurement about two inches in length. The superior portion of the vertebral column projected over the inferior, so that the lower part of the body was carried a little forwards, and the spine was not in the same line as it is in its natural form. There was no paralysis, or numbness in the lower extremities, and no loss of motion, excepting the weakness which would naturally ensue from such an accident. The bladder and rectum possessed their full powers, and no other symptom existed to denote so severe an injury to the spine, excepting the pain in the back. As the slightest movement of the body might have displaced the vertebral column still more, and thus have wounded the medulla, the man was carefully laid upon a litter, and carried to the St. Marylebone Infirmary. He then was cautiously placed upon his back, on the double-inclined plane bed, at its lowest angle. He could not however at first bear this position long together, from the extreme severity of pain in the injured part; he was therefore occasionally moved on his right side, which was done with the greatest care. He was cupped on the injured part as often as the symptoms required the loss of blood, purged, and

kept strictly on the antiphlogistic regimen, taking diaphoretics during the febrile action. When the pain had subsided, which was in about four or five days, he was placed entirely on his back, and kept perfectly quiet. The chasm between the eleventh and twelfth dorsal vertebræ gradually lessened, the pain subsided, and the patient in three months left the Infirmary, quite well, excepting the deformity as represented in the cast, and being weak in the back. The spine at the part where the injury took place is firmly consolidated, but the eleventh dorsal vertebra still projects. During the whole treatment no untoward symptom occurred; there was no paralysis of the bladder, the rectum, or the lower extremities.

It would be extremely difficult, without dissection of the spine, to account for the displacement of the vertebræ in this case. It appears to me that the contrecoup took place between the eleventh and twelfth dorsal vertebræ; that is to say, the force from below, and the weight from above, centred at this spot, whereby the ligaments were broken, the articular surfaces fractured, and the intervertebral cartilage partly torn asunder; and thus the separation or chasm between the two vertebræ may be accounted for; in fact they were partly severed from one another. The most remarkable feature, at the first view of this case, is that there should have been no symptoms of paralysis in the limbs below, or of the bladder or rectum. When, however, we look at the anatomy of the part, and the manner in which the injury was received, we shall soon discover the possibility of such an accident happening without paraplegia. In fact there is only a separation of the exterior parts, without the chorda spinalis being injured internally. The spinal chord is contained in a canal formed by the rings and bodies of the vertebræ. According to the way in which the accident occurred, by a contrecoup, the spinal column alone would suffer, and not its contents. If a blow had been received on the spine, or the vertebræ in this case had not given way, then the chord might have been influenced by the shock, but the whole force falling upon the vertebral column, tore it open at a particular point, without injuring the chorda

spinalis contained within it ; in the same manner as we should break the shell of a nut without injuring its kernel.

I now shall speak of dislocations of the vertebræ.

Dislocation of the vertebræ from one another, without fracture of the articulating surfaces, is an accident of very rare occurrence, and by some it has been considered impossible to happen. This difficulty of a proper dislocation of the vertebræ is owing to the peculiar manner in which they are articulated. In the dorsal part of the column the articular surfaces of the superior vertebræ hang so completely vertical over those of the inferior, and are so locked into one another, that it is impossible the bones can be moved from their situation without their fracture ; and in the lumbar also, the articular surfaces of the inferior vertebræ so overlap those of the superior, that a proper dislocation of them cannot well take place. In the cervical vertebræ, however, the articular surfaces are more horizontal, and having more motion, will admit of a proper dislocation, although it is an accident of very uncommon occurrence ; so much so, that Sir Astley Cooper acknowledges, in his work on Dislocations, that during the whole of his professional career and great experience, he never saw an instance of it. He does not, however, deny its possibility. Boyer considers that all the cervical vertebræ can be dislocated, but that it most frequently happens between the first and second. J. L. Petit relates a case, which is also quoted by Boyer, where the only son of a tradesman went into his neighbour's shop, and playing with his infant son, lifted him from the ground by putting one hand under his chin, and the other on the back part of the head, by which he dislocated his neck, and the child instantly died. The father in his passion pursued the unfortunate homicide, and threw at him a saddler's hammer, the sharp point of which penetrated between the first and second vertebræ, and divided the medulla spinalis, and he killed him on the spot also ; and thus, as he remarks, they both perished from nearly the same accident. M. Louis observed, that it was necessary in this dislocation that a rotatory motion be given to the body ; and he found in those who were hung, and when

the neck of the culprit was dislocated, that a twist was given to the body by the executioner.

The cause of the more frequent occurrence of this accident is owing to the principal rotatory motion of the head being between the first and second vertebræ ; the rotatory motion being carried too far, the ligaments of the processus dentatus are broken, and the vertebræ dislocated. This is not, however, the only mode by which the first vertebra can be dislocated from the second. There is a possibility of this accident being produced by the head being bent forwards. Whether the following case, which occurred during the time I was house-surgeon at St. Bartholomew's Hospital, happened from this cause, is uncertain, although it seems not unlikely.

CASE V.—A bricklayer ascending a ladder at a great height lost his hold, and fell upon his head. He was taken up dead, and conveyed to St. Bartholomew's Hospital. His spine was examined, and it was found that he had dislocated the first vertebra from the second, the ligaments of the processus dentatus being torn.

Boyer mentions another species of dislocation of the vertebræ, in which only one of the articulating processes was thrown out of its articulation. He relates one or two facts of this description, and it is owing to the overstretching of the rotatory motion on either side : thus a person suddenly turns his head round beyond the natural point, and dislocates one of the articular processes.

The five other cervical vertebræ may suffer a proper dislocation from one another ; and when it does occur, it appears usually to happen, at least from the cases I have seen of it, between the fifth and sixth vertebræ ; and even this may be observed also when there is a dislocation with fracture of the articulating processes.

The three following cases, all of which happened but a few years ago, prove that a dislocation of the cervical vertebræ can take place. The preparations taken from the individuals upon whom the accident occurred, are preserved in the museum of St. Bartholomew's Hospital.

CASE I.—A man was working upon the roof of a house, and having lost his balance, fell upon the pavement with

his head foremost, and bent his neck forward to an extreme angle. He was taken to the hospital. Some displacement was observed between the fifth and sixth vertebræ; and the upper part of the column was protruded a little more forward than the lower. He had paralysis of all the parts below the injury. The usual remedies were employed, but he died in a fortnight. It was found that there was a proper dislocation of the fifth vertebra from the sixth; but that neither the articulating processes, nor the rim of the body of the vertebræ, were fractured.

CASE II.—A man also fell from a height, and bent his neck forward to an extreme angle. He died, and it was discovered that he had dislocated the fifth vertebra from the sixth, without fracture of any part of either of them.

CASE III.—Charles Butcher, æt. 22, Jan. 8th, 1827, (Rahere, Tuesday).—Injury of the cervical region of the spine, with paralysis of the parts below.

The patient, a stout muscular man, while descending a step about two feet in height, with a barrel (1 cwt.) upon his shoulder, slipped and fell upon his buttocks: the barrel resting upon the back of the head and upper part of the neck. He was lifted up, and brought to the hospital about five o'clock P.M. He was perfectly sensible; there is a total loss of sensation and voluntary motion below the neck; respiration is performed solely by the diaphragm; the chest is motionless, and the abdominal muscles do not contract in respiration. The abdomen rises in consequence of the descent of the diaphragm, and the parts, thus pushed downwards and forwards, restore themselves by their elasticity. Pulse weak and slow; body cold; priapism. To be placed carefully upon his back in bed.

10 P.M.—His pulse is full and hard; heat of the body increased considerably beyond the natural temperature; respiration rather hurried. To be bled to sixteen ounces, and to take four grains of calomel and ten of jalap immediately. About four ounces of urine were drawn off by the catheter.

Jan. 9th.—Has dosed, but not slept during the night; complains of pain in the lower part of the neck; respiration slower; pulse full; heat of the body diminished; can move the arms very slightly, and has a little feeling in the

front of the chest: fæces, dark and offensive, have been passed involuntarily: a catheter was introduced, but only about a table-spoonful of urine evacuated. To take the saline medicine every six hours. In the evening about six ounces of high-coloured urine were drawn off.

10th.—Has slept three or four times during the night, for about an hour each time, and expresses himself better this morning; pulse and temperature of the body remain the same; he has a tingling sensation in the hands this morning, and is sensible to impressions on the upper parts of the arms and thighs; fæces have been discharged involuntarily, and complains of distension of the bladder; about eighteen ounces of high-coloured urine were drawn off, which, upon standing, deposited a small quantity of dark brown sediment. Priapism continues to a greater or less extent at different periods.

9 P.M.—Much the same; four ounces of urine were drawn off.

11th.—Worse this morning; sensation in the arms and legs continues in a slight degree; has not slept during the night; thinks he could walk home, and asks for his clothes to dress himself; countenance looks unfavourable; tongue light brown, and dry in the middle, but moist at its edges; fæces have passed involuntarily; six ounces of urine drawn off, of a lighter colour than that drawn yesterday.

10 P.M.—Is rapidly sinking; countenance exceedingly anxious; respiration performed very laboriously; little action of the diaphragm; priapism; pulse weak and slow; surface of the body cold: three ounces of thick urine were drawn off. In this state he continued until one o'clock on the morning of the 12th, when he expired.

Examination.—Complete dislocation of the fourth vertebra of the neck; its inferior oblique processes have passed in front of the superior oblique processes of the fifth vertebra; its body, separated at the fibro-cartilage, stands over that of the fifth by its whole depth.

The manner in which dislocation is accomplished, is by the neck being bent forward to an extreme angle, so that the articulating surfaces are dislocated, and the ligaments broken. A blow upon the neck could hardly produce the accident without breaking them,

from their hanging so obliquely over one another; but the neck being bent forward, the inferior articulating processes of the superior vertebra are lifted up from those of the inferior over their extreme points, and are thus thrown out of their situation.

To attempt to reduce a dislocation of this description could be of little avail. The treatment must be the same as in fracture and concussion; but there is little or no chance of recovery.

The following appearances may more or less be observed in those who die from injuries of the spine:—

In concussion, the parts exterior to the osseous canal are usually much contused, and sometimes blood is found extravasated in the cellular membrane. The membranes of the chorda spinalis are in a high state of vascularity, opposite to the point where the blow took place; and occasionally one or more of them are ruptured. There may also be more or less blood, either coagulated or not, between the dura mater and osseous canal, the dura mater and arachnoid membrane, the arachnoid membrane and pia mater, and sometimes between all at the same time. When the patient dies immediately after the accident, the medulla spinalis is generally of its natural colour and texture, but now and then it is rather redder; and if minutely examined through a magnifying glass, the capillaries ramifying upon it may be seen injected with blood. When the death of a patient has been delayed, it is not uncommon to find it of a yellowish-red colour, and of a softer consistence; and in some cases where there has been much inflammation, it is rendered into a fluid state at the part where the concussion took place. Occasionally it is observed that the inflammation of the injured portion has extended itself along its own substance to the brain, as well as along its membranes, to those of that organ; and in this case there is a quantity of fluid found in the vertebral canal.

When simple fracture of the spine takes place, the morbid appearances are generally the same as in concussion; but if there is a complication of injuries, such as depression of the bone, &c., or there is dislocation of the vertebræ from one another, then it is found that compression, contusion, or either total or partial laceration of the spinal

chord, may be produced. When the chord is compressed, it does not always follow that there should be any difference from concussion in the morbid appearances, although most generally it is found that either some of the membranes are torn, or there is extravasation of blood in the canal, and the chord is much redder than usual. When the chord is contused, it is usually found to be soft and disorganized; being occasionally streaked in its internal substance with coagulated blood; and in one instance, mentioned by Sir E. Home, a clot of blood was found in its centre. The membranes may be ecchymosed, ruptured, or have coagulated blood between them. If long after the injury, the chord may be changed both in colour and structure; being in the one of a yellowish-red, or grey, and in the other much softened. Laceration of the chorda spinalis almost always occurs when there is fracture with dislocation, or when there is dislocation alone; and it may happen even under any circumstances, when there is displacement: the chord in these cases may be either wholly or partially lacerated, and generally its membranes are torn, and blood is effused in the vertebral canal.

ON THE NORMAL DIMENSIONS OF THE HEART IN THE ADULT.

BY W. H. RANKING, M.D., Cantab.
Physician to the Suffolk General Hospital.

(*For the London Medical Gazette.*)

It might reasonably be supposed that, in these days of accurate research, no doubt would exist upon any point connected with the anatomical consideration of an organ so frequently examined as the heart. It is possible, therefore, that some surprise may be created by the statement, that our ideas respecting the absolute and relative dimensions of that organ in its normal conditions, are more indefinite than those which are entertained upon almost any other subject within the range of anatomico-pathological investigation. That such, however, is the case with a great part of the profession, may be confidently asserted; and I doubt not that the experience of others will bear me out in saying, that there are many fully competent to recognize diseased changes

of a minute character in other parts of the body, who will, notwithstanding, hesitate to pronounce, unless the deviation from a state of health be very marked indeed, whether a particular specimen of the heart be of natural or diseased dimensions, more especially as regards the proportions of one of its parts to the others.

This uncertainty of opinion can only arise from the want of a fixed metrical standard of the proportions of that organ in its healthy condition; a want which has been but very inadequately supplied in the numerous works on cardiac physiology and pathology, which the last quarter of a century has produced. A perusal of the principal of these works will forcibly exhibit the meagreness of our information respecting the standard size of the heart. Laennec is satisfied with making a rough estimate of its dimensions as compared with some other part of the body; as the closed fist of the subject. Andral, after alluding to this uncertain estimate, contents himself with the statement, that the "parietes of the left ventricle are naturally twice as thick as those of the right;" and further, that at the extremes of age and infancy, "the thickness of the parietes of the left ventricle is to that of the right as three or four to one."* Hope refers to the opinion of Laennec, as approaching "as near the truth as it is possible to arrive;"† and mentions incidentally, that the parietes of the left ventricle average half an inch, and those of the right three lines. No other measurements are referred to. Nothing, therefore, is to be derived from these authors from which we can deduce a true estimate of the proportions of the healthy heart; and it is in the hope of assisting to supply the deficiency that the present observations are made public. The only authors who have made minute measurements of the heart, hitherto, are Bouillaud and Bizot; the deductions of the former are of little value, as they are drawn from the examination of only thirteen examples of both sexes.

The measurements to which I am about to refer were made a few years back, in the dead-house of Guy's Hospital, with the co-operation of my relative, Professor Guy, of King's College;

and although the observations are small in number, being only fifteen in the male, and seventeen in the female, yet from the scrupulous care with which each individual example was selected, a value may be attached to the result of the measurements, to which less exact observations would not be entitled. Of upwards of 100 hearts of which the dimensions were taken, we were particular in rejecting every one which exhibited any trace of organic change, and we were even cautious in admitting any which had given evidence of disorder during life. The majority of examples were chosen from cases in which there had either been no question as to the condition of the heart during life, or in which death occurred from accidental causes during a state of supposed health.

The plan of measurement adopted was as follows:—The heart was carefully emptied of its blood, and denuded of superfluous fat: the circumference was then taken at the base, being the thickest part. The length of the organ includes a line drawn from the point at which the aorta emerges from the base to another point, to a plane perpendicular to the apex. The thickness of the ventricular walls was taken at a point about an inch distant from the origin of the vessels; that being the only portion unoccupied by *carneæ columnæ*. The thickness of the septum was taken at its centre. The circumferences of the pulmonary and aortic orifices were taken by dissecting the vessels respectively from their attachments, and extending them upon the table, care being taken to prevent errors likely to arise from unnecessary traction during the operation. The measurement was then made upon a line with the insertion of the semi-lunar valves. The circumferences of the auriculo-ventricular orifices were obtained in a similar manner. In these examinations, it will be seen that the auricles are omitted. The reason is this: that in the normal condition, the thickness of their parietes varies so much, according to the part which may happen to be fixed upon for measurement, that no positive standard can be arrived at; at one spot it might amount to a line and a half, or two lines, while in another the external and internal membranes are almost in contact. No attempt, likewise, has been made at an

* Path. Anat.: vol. 2.

† On Diseases of the Heart, p. 180.

estimation of the capacities of the different cavities, from the want of a method upon which reliance could be placed.

All the hearts which were subjected to measurement were those of adults. The mean age of the males is $39\frac{1}{2}$ years, the maximum 65 years, the minimum 26. Of the females, the mean age is $34\frac{3}{4}$ years, the maximum 62, the minimum 18 years. The observations in the male are 15 in number; in the female, 17. No striking deviation from the middle height was observed in either sex.

I proceed to detail the results of our measurements, and to compare them with those of other observers. The *circumference* has for its mean, in the 15 male hearts, 9 inches and 27-48ths; for its maximum, 11 inches and 18-48ths; for its minimum, 8 inches and 16-48ths. Of 17 female hearts, the mean circumference is 8 inches and 13-48ths; the maximum, 10 inches and 24-48ths; the minimum, 7 inches and 21-48ths. According to Bouillaud, the mean circumference for both sexes is $8\frac{3}{4}$ inches.

The mean *length* of the male heart is 4 inches and 16-48ths; the maximum, 4 inches and 36-48ths; the minimum, 3 inches and 40-48ths. In the female, the mean is 3 inches and 24-48ths; maximum, 4 inches and 21-48ths; minimum, 3 inches and 12-48ths. Bouillaud gives the mean length of the ventricles in 9 healthy hearts of both sexes, as 3 inches $7\frac{1}{2}$ lines, or 3 inches and 30-48ths. Meckel states it to be 4 inches.

The mean *thickness* of the left ventricle in the male, is 27-48ths of an inch; maximum, 33-48ths of an inch; minimum, 21-48ths of an inch. In the female, the mean is 23-48ths of an inch; the maximum, 30-48ths of an inch; the minimum, 15-48ths of an inch. Bouillaud gives $7\frac{1}{2}$ lines, or 30-48ths of an inch, as the mean thickness of the left ventricle. This, however, appears to be above the average even in males. The error is perhaps to be attributed to the small number of instances from which the estimate is deduced. Bizot places the average thickness of the left ventricle at the base in male hearts, at 461-122 lines, or 18-48ths of an inch; and in the female, at $4\frac{3}{8}$ lines, or rather more than 16-48ths of an inch; an estimate which is considerably below our own. It is difficult to account for

such discrepancy, except upon the supposition that different points were chosen for measurement.

The mean thickness of the right ventricle in the male, is 8-48ths of an inch; the maximum, 11-48ths of an inch; the minimum, 6-48ths of an inch. In the female, the mean is 6-48ths of an inch; the maximum, 9-48ths of an inch; the minimum, 5-48ths of an inch. The average given by Bouillaud is above this, being $2\frac{1}{2}$ lines, or 10-48ths of an inch for both sexes. According to Bizot, the average thickness of the right ventricle is, for the male, nearly 2 lines, or 8-48ths of an inch; that of the female, $1\frac{2}{3}$ lines, or rather more than 6-48ths of an inch; an estimate which more nearly corresponds with our own.

The septum ventriculorum has, according to the present measurements, for its mean thickness, in the male, 22-48ths of an inch; maximum, 31-48ths of an inch; minimum, 17-48ths of an inch. In the female, the mean is 14-48ths of an inch; maximum, 27-48ths of an inch; minimum, 13-48ths of an inch. According to Meckel, the thickness of the septum is 11 lines, or 44-48ths of an inch; and the same result is given by Bouillaud, from the measurement of a single specimen only. This estimate appears to me to be manifestly erroneous, as in two greatly enlarged hearts, one of which measured more than 14 inches in circumference, and in which the muscular substance was hypertrophied, the septum was found to be only 38-48ths of an inch in thickness. Bizot's average is in correspondence with our own, being $5\frac{1}{3}$ lines, or about 21-48ths of an inch for the male, and 5 lines and 3-19ths for the female.

The dimensions of the orifices are found to be as follows:—The *aortic* orifice has for its mean circumference in the male, 2 inches and 31-48ths, or $2\frac{3}{4}$ inches nearly; the maximum is 3 inches and 22-48ths; the minimum, 2 inches and 14-48ths. In the female, the mean circumference is 2 inches and 22-48ths; the maximum, 2 inches 44-48ths; the minimum, 2 inches and 6-48ths. Bouillaud, who takes his measurements of the part from only four examples, without respect to sex, states the mean circumference of the aortic orifice to be 2 inches and $5\frac{1}{2}$ lines, or $2\frac{1}{2}$ inches nearly. In this and the following measurement, a surprising

difference exists between our estimates and those of M. Bizot, who gives 45 lines, or 3¾ inches, for the male, and 41 lines, or 3½ inches, for the female.

The mean *circumference* of the *pulmonary artery*, at its origin, is in the male, 2 inches and 34-48ths; the maximum, 3 inches and 12-48ths; the minimum, 2 inches and 23-48ths. In the female, the mean is 2 inches and 24-48ths; maximum, 3 inches and 12-48ths; the minimum, 2 inches and 12-48ths. The estimate of Bouillaud for this orifice is 2 inches 7 lines, or 2 inches and 28-48ths. That of Bizot, 54 lines, or 4 inches 6 lines for the male, and 48 lines, or 4 inches, in the female; dimensions which I have never seen equalled in any heart which I have seen measured.

The *right auriculo-ventricular* orifice averaged, in the male, 4 inches and 35-48ths; the maximum, 5 inches and 36-48ths, or 5¼ inches; the minimum, 4 inches and 8-48ths. In female hearts, the mean is shown to be 4 inches and 8-48ths; the maximum, 5

inches and 18-48ths; the minimum, 3 inches and 13-48ths.

The *left auriculo-ventricular* orifice has, for its mean circumference in the male, 3 inches and 45-48ths; maximum, 4 inches and 24-48ths; minimum 3 inches and 13-48ths. In the female, the mean is 3 inches and 22-48ths; maximum, 4 inches and 18-48ths; minimum, 2 inches and 36-48ths. Bouillaud states the average circumference of the right auriculo-ventricular orifice to be 3 inches 10 lines; and that of the left, to be 3 inches 6½ lines. These estimates, however, are taken from the examination of three examples only. Not having seen the original memoir of M. Bizot, I am not able to give his measurements of these parts. They are not detailed in the paper upon the heart, in the *Cyclopædia of Anatomy and Physiology*, from which his other measurements are derived.

The above results are, for facility of reference, here appended in a tabular form.

					Maximum.	Minimum.	Mean.
Circumference at the base	-	-	-	{ Male	11 18-48	8 16-48	9 27-48
				{ Female	10 24-48	7 21-48	8 13-48
Length	-	-	-	{ Male	4 36-48	3 40-48	4 16-48
				{ Female	4 31-48	3 12-48	3 24-48
Thickness of the right ventricle	-	-	-	{ Male	11-48	6-48	8-48
				{ Female	9-48	5-48	6-48
Thickness of the left ventricle	-	-	-	{ Male	33-48	21-48	27-48
				{ Female	30-48	15-48	23-48
Thickness of septum	-	-	-	{ Male	31-48	17-48	22-48
				{ Female	27-48	13-48	19-48
Circumference of aorta	-	-	-	{ Male	3 22-48	2 14-48	2 31-48
				{ Female	2 44-48	2 6-48	2 22-48
Circumference of pulmonary artery	-	-	-	{ Male	3 12-48	2 33-48	2 35-48
				{ Female	3 12-48	2 12-48	2 24-48
Circumference of the right auricular ventricular orifice	-	-	-	{ Male	5 36-48	4 8-48	4 34-48
				{ Female	5 18-48	3 13-48	4 8-48
Circumference of the left auricular ventricular orifice	-	-	-	{ Male	4 24-48	3 13-48	3 45-48
				{ Female	4 18-48	2 30-48	3 22-48

The analysis of this table furnishes us with the following deductions:—
1st. That the male heart is larger in all its proportions than the female.

2nd. That the length of a healthy heart to its circumference should be rather less than as 1 : 2.
3rd. That the thickness of the right

ventricular parietes is to that of the left as 1 : 3 nearly. Laennec states the ratio to be as 1 : 2; Cruveilhier as 1 : 4; Soemmering as 1 : 3.

4th. That the pulmonary artery is slightly wider than the aorta.

5th. That the right-auriculo ventricular orifice is considerably larger than the left, amounting to nearly an inch in both sexes.

Having thus given the dimensions of the different parts of the heart in its healthy state, it may not be uninteresting to detail the metrical effects of disease in the same structures, as they were observed in several examples which were submitted to examination.

The circumference of the heart is often much increased, but seldom diminished, by disease. It is commonly thought that the organ is below the natural size in phthisis: in four male and three female hearts which form part of our series of measurements, there is not one which is below the minimum for the sex. The greatest increase in circumference is observed in cases of hypertrophy, with dilatation of the ventricles. One heart in the present series measured $12\frac{3}{4}$ inches.

The length of the heart is found to be increased in all cases of dilatation of the ventricles; I have met with it several times over 5 inches, and in one case as high as $5\frac{1}{2}$ inches.

The thickness of the right ventricle undergoes both increase and diminution under the influence of disease; most commonly the latter. It is however occasionally hypertrophied; in two of our examples it measured respectively 12-48ths and 17-48ths of an inch, and in one instance as much as 44-48ths of an inch in thickness. In the latter instance the aorta arose from both ventricles, of which the left was the least thick by more than half. In the second example, the foramen ovale was open, and the pulmonary artery only half its natural size. Hope mentions a case in which the thickness of the right ventricle amounted to 7 lines, or 28-48ths of an inch, and Bertin one in which it reached 16 lines.

The left ventricle undergoes similar alterations to the right, though the reverse is the case with regard to the frequency of their occurrence. Preternatural thickness of this ventricle is more frequent than attenuation. I have seen it amount to 1 inch in a male;

Hope relates a case in which it reached $1\frac{1}{2}$ inches. The septum is likewise subject to hypertrophy and atrophy; I have seen the measurement as high as 38-48ths of an inch, and as low as 13-48ths of an inch.

The pulmonary orifice is, from causes which have never been satisfactorily explained, but little subject to alteration from disease. It however occasionally presents contracted dimensions, coexisting with other congenital malformations of the heart. Two cases of the kind occur in the present series. In one, before alluded to, in which the aorta arose from both ventricles, the circumference of the pulmonary artery measured less than an inch, and in the other, a case of open foramen ovale, it was only 1 inch and 40-48ths. Hope mentions a case similar to the first, in which the pulmonary orifice was so narrow as scarcely to admit a quill.

The aortic orifice, like the pulmonary, is found narrow from congenital malformation, but it is more frequently altered in its circumference by disease. It may be dilated, as I believe it frequently is in the early stages of endocarditis, when the inflammation has only gone the length of impairing the elasticity of the fibrous tissue; or contracted, as is more frequently observed when disease has been sufficiently advanced to produce death. The contraction is caused by a puckering of the lining membrane, and by thickening and agglutination of two or more of the semilunar valves. The dimensions may be reduced in all degrees from the natural size to one which might be considered incompatible with existence. I have seen the circumference as small as 1 inch and 3-48ths.

The chief morbid condition of the right auriculo-ventricular orifice is dilatation, a state which may readily be supposed to be of frequent occurrence, as it generally coexists with dilatation of the cavities, the most common disorder to which the heart is subject. The largest measurement which it has occurred to me to witness is $6\frac{1}{2}$ inches. Contraction of the orifice, as all other changes induced by inflammation, is rare on the right side of the heart.

The left auriculo-ventricular orifice is subject both to an increase and diminution of size. The former is found occasionally, but not very frequently, and is then combined with simple dila-

tation of the left cavities: in one case it measured $5\frac{1}{2}$ inches; the right auriculo-ventricular opening of the same heart being only 4 inches and 21-48ths of an inch, and in another instance it was found to be 5 inches and 2-48ths of an inch. Contraction in this orifice, as in that of the aorta, is produced by inflammation, and consequent thickening of the lining membrane. In estimating the effects of disease in this orifice, a distinction is to be made between its real contraction, at the points chosen for measurement, and the contraction caused by shortening and agglutination of the mitral curtains: the latter sometimes reduces the communication between the auricle and ventricle to a mere slit. I have never seen the left auriculo-ventricular opening itself less than 2 inches and 19-48ths of an inch.

In concluding these observations upon the dimensions of the heart, I must again acknowledge the assistance of Dr. Guy, of King's College, and beg moreover to mention my obligations to Mr. King, demonstrator of pathological anatomy at Guy's Hospital, to whose politeness both Dr. Guy and myself were indebted for facilities in prosecuting our inquiries.

Bury St. Edmund's.

LARGE CALCULUS IN THE
BLADDER OF A FEMALE CHILD,
THREE AND A HALF YEARS OLD.

To the Editor of the Medical Gazette.

SIR,

IN consequence of the shortness and dilatability of the meatus urinarius in the female, calculus is not so often found in that sex. In the female infant, indeed, it is a very rare disease, and although many cases are on record, yet I think none has been related as occurring in a female child under four years of age. Authors have differed more in respect to the treatment of the female than the male, especially in reference to the propriety of dilatation. Many judicious men regard the act of dilating the urethra as tending to incontinence of urine, more than the operation of lithotomy.

The following case, occurring in a female child three years and a half old, affords us an instance of the

superiority of making an incision into the bladder instead of dilating the urethra; indeed it is an example of the impracticability of dilating the urethra in so young an infant. About a year and a half ago, the child, who was then two years old, was brought to me, with swelling and inflammation of the nymphæ, and a mucous discharge. As, however, I had frequently seen these results from dentition or irritation of the mucous membrane of the bowels, I merely requested them to give the child an aperient, and to keep the parts clean. In the course of two months from this time the parents took her to another medical man, who treated the case as an affection of the spine. After being under his care about six weeks, the child was then taken to Greenwich Hospital, where the bladder was sounded, and a stone found. Owing to the age of the child at this time, and the extreme smallness of the vagina, it was deemed advisable to wait, which they did until the child was three years old. Its sufferings were now intolerable; yet the digestive function maintained its healthy vigour. About this time I examined the bladder, and found the stone, which I attempted to extract by dilating the urethra: failing in this point, I attempted to crush the stone, but owing to the mucous irritation of the bladder, which endangered the child's life, I was compelled to desist, and recommended the use of the alkalis. In the meanwhile a friend of the parents urged them to remove the case to Guy's Hospital, where dilatation of the urethra was again tried for a fortnight. The parents, on visiting the child, found her health so much impaired that they brought her home, when I a third time saw the case, and found the same objection to extraction by dilatation as before. The sufferings of the little patient were now almost past endurance, her strength rapidly failing, never sleeping more than half an hour at a time, and death inevitable. As I could just pass my forefinger into the vagina, I determined on performing the operation of lithotomy, which was done on the 12th of January, with a small grooved director, blunt-pointed bistoury, and common forceps. I extracted a calculus of the lithic acid character, one inch and a quarter in length, seven-eighths of an inch in width, and two inches and a half in

circumference, weighing two drachms and forty grains. The same night she slept four hours, and daily continued to improve, without a single unfavourable symptom, and at the date of this paper she retains her urine five hours at a time, the powers of the urethra and bladder fast resuming their healthy tone.

On reflecting on the character of the female urethra, the non-contractile power of the fibrous structure in a state of health, and the continued constitutional irritability which attends calculus, I cannot but think how possible it is (although a surgeon may succeed in extracting a calculus,) to over dilate the urethra.—I remain,

Yours respectfully,

JOHN GRANTHAM.

Crayford, Kent, Feb. 5th, 1842.

PARALYSIS OF THE MUSCLES OF THE FACE.

To the Editor of the Medical Gazette.

SIR,

SHOULD you deem the following worthy a place in your valuable journal, you will greatly oblige me by giving it insertion.—I am, sir,

Your very obedient servant,

R. T. H. BARTLEY, M.R.C.S.,

Under Graduate of the University of London.

Bristol, Feb. 15, 1842.

Mary Morris, aged 30, laundress, came under my care with paralysis of the muscles of the left half of the face. The mouth was drawn to the right side; the power of winking the left eye, as in the case of Dr. Zabriskie,* was suspended; and when told to frown, or elevate the eyebrows, the right half of the forehead was alone corrugated, giving to the countenance a most peculiar and half idiotic expression. The platysma of the right side was frequently spasmodically contracted on her attempting to speak; but this, I think, was a semi voluntary act, occasioned by her feeling a want of power in the antagonist muscle. She complained of no headache; sensation everywhere perfect; and the motions of those organs and muscles about the jaw and face, supplied by the ophthalmic, lingual, and other nerves, such as

the tongue and eyeball, masseter, pterygoid, and temporal muscles, were freely exercised, and equally well on both sides. She attributed her symptoms to a "*chill*, caught by sleeping on a damp pillow." Having had previous experience of the good effects of iodide of potassium in my own person (having been similarly attacked, and from a similar cause, in the summer of 1837,) I prescribed five grains of the salt to be taken in a wine-glassful of water, three times a day; and I ordered the unguentum potass. iodid. to be rubbed in under the ear, in the situation of the exit of the portio duro, night and morning. Though previously treated by an experienced practitioner for six weeks, by bleeding, leeching, blistering, and other antiphlogistic measures, without the smallest benefit, the first time I saw her (five days) after prescribing the iodide, &c., there was marked improvement, evidenced chiefly by the returning power of the corrugator supercilii. I was in attendance at intervals of three or four days for the next month, and was much gratified at the expiration of that period in finding my patient *perfectly* restored, and that, too, by a rigid perseverance in those means which in my own case had been so eminently successful.

REMARKS.—The above cases were evidently examples of paralysis of the portio dura, confined in each case to but one trunk, and quite independent of any faulty condition of the cerebral nervous centre.

Sir Charles Bell was, I believe, the first to describe its strictly local character; but from the fact of its having been so imperfectly noted by late nosologists, I am inclined to think—admitting at the same time its rarity—that it has too frequently been considered as dependent on cerebral disorder, and that in many cases it has been merged into the other symptoms of general paralysis.

CONVULSIONS.

To the Editor of the Medical Gazette.

SIR,

SHOULD you consider the following cases (taken from rough notes in my case-book) of sufficient interest to merit insertion in your excellent journal of

* Vide MED. GAZ. of Feb. 11.

medical and surgical science, they are at your service.—I remain, sir,

Your obedient servant,

J. N. STEVENS,
M.R.C.S.L., &c.

St. Keverne, near Helston,
Cornwall, Feb. 22, 1842.

Convulsions following Scarlatina.

On February 25th, 1841, I was called in great haste to visit a girl, a few miles from my residence, who had been suddenly seized with convulsions. I found her presenting the usual symptoms observable during a severe paroxysm of this alarming disease, requiring the aid of several persons to keep her in bed; and from this date to March 4th, about a week, three other female members of the same family became successively affected in a similar way, all of whom were more or less œdematous after scarlet fever, and were speedily recovered by free blood-letting, purging, cold applications to the head, followed by laxatives and diuretics; a spare diet, quietness, and darkened rooms, being at the same time enjoined.

REMARKS.—Out of several hundred cases of scarlet fever I have witnessed during different epidemics, to the best of my knowledge these were the *only* cases in which convulsions occurred as a *sequela* of that disease, although they are well known to *usher in* occasionally the eruptive fevers; but I rather think Dr. Marshall Hall has mentioned the occurrence of similar cases. I consider it remarkable that four members of the same family should have been so rapidly affected in succession by these alarming and frightful attacks. That cerebral congestion was the exciting cause, there cannot be a doubt, from the result of the treatment adopted, viz., the rapid recovery of this interesting group of patients. There appears to have been a marked idiosyncrasy in the constitutional habits of this family.

Convulsions followed by fatal Ischuria Renalis.

I was called on Nov. 22, 1840, to visit Mrs. Matthews, ætat. 37, of full habit, and inclined to corpulency, who, being in an advanced state of pregnancy, was suddenly seized with convulsions. I found her presenting the usual train of symptoms in these cases, and proceeded at once to abstract a large quantity of blood from the arm, which was followed by a brisk purga-

tive, the application of cold to the head, and the use of a mixture composed of spirit of sulphuric æther, tinct. of Valerian, and camphor julep. The os uteri was not in the least dilated, nor were any of the usual signs of labour present. In the course of twenty-four hours, the treatment adopted had been successful in removing the convulsions; and on the 24th, labour commenced, and terminated most favourably in the birth of a dead child, before I could reach her (a distance of ten miles from my residence). After this, I fully expected my patient's speedy restoration to health; but on my visiting her on the second day after her delivery, I found she had passed no water, which I was much surprised at, there being neither swelling or tenderness in the hypogastric region. There had been a paucity of urine, and a general œdematous state of the cellular tissue, for some time previous to the attack of convulsions, but this last appearance is often a concomitant effect of pregnancy from mechanical obstruction to the return of venous blood to the heart, and in general speedily disappears after delivery, when the cause being removed, the effect ceases. I introduced the catheter, but, as I had anticipated, without obtaining a drop of water, as it was pretty evident from the previous examination that the viscus was empty. It was now clearly, in my opinion, what Dr. Good calls ischuria renalis *suppressionis*, in contradistinction to ischuria renalis *retentionis*. The symptoms were—slight nausea, an unusual degree of heaviness and oppression, hiccup, absence of pain, and a pulse slower than natural. These symptoms continued much the same for about a fortnight, with the exception of an increase of the torpor of the system, and occasional vomiting, when she died comatose. The treatment consisted (after bleeding from the arm) of stimulating diuretics, terebinthinate injections and frictions, blistering the lumbar region, together with the warm bath, and Dover's powder, the state of the bowels being at the same time attended to.

REMARKS.—This case is, in my opinion, an extremely rare and interesting one, as proving the poisonous effect on the system of a most important secretion, when suppressed and retained in the circulating current; and at the same time, the continuance of life under

such circumstances for the period mentioned. It appeared that she had been frightened by a beggar, who called at her house when she was alone, during her pregnancy. At one time in the course of the treatment adopted, a very small quantity of water was passed; but after this period, all our efforts to excite the further action of the kidneys failed. *Query*: Was not the state of brain and nervous system, which gave rise to the attack of convulsions, also mainly instrumental in producing palsy of the kidneys?

I have sent you these desultory remarks in connection with the foregoing cases, in, what I deem, a proper spirit of professional communication, hoping they may prove interesting to your readers.

REPORTS OF CASES OCCURRING IN PRIVATE PRACTICE.

BY JOSEPH BELL, SURGEON.

(*For the London Medical Gazette.*)

[Continued from p. 871.]

THE above cases are selected from the notes of upwards of two hundred treated in a similar manner. The only rule observed in their selection for publication was to confine myself to those cases which occurred from November 1840 to May 1841. The instances now quoted may be considered as affording a fair example of the results which I have obtained from this plan of treatment; a treatment obviously founded on the views held by certain continental authorities regarding the pathology of typhus fever. I have followed the practice for several years with the most satisfactory results. From this, as well as from the phenomena which the disease presented during life, and also the appearances after death, I am induced to believe that the abdominal lesion holds a most important link in the chain of causation of the fever of Great Britain and France. Such is the opinion which my own observations have led me to adopt—an opinion which is daily gaining ground among our most eminent physicians. The advocates of the “essential” and of the “general” nature of typhus fever, finding that, despite of all their special pleading, lesion of the gastro-enteritic mucous membrane and of Peyer’s glands are

now acknowledged to be the anatomical character at least of the disease in France, have changed their position, and argue, with great ingenuity and address, that the typhus fever of that country is not identical with the typhus of Great Britain.

Space will not permit me to enter into a consideration of the arguments employed, and the facts (?) adduced to prove this non-identity. I would merely observe, that the facts before the world, as well as the reasoning used, are far from authorizing any such conclusion. The opinion of M. Lombard, who visited this country some years since, has been appealed to by the advocates of non-identity as quite conclusive on this subject. I cannot adopt a better mode of showing the slight weight which should be attached to his views, than by making the following quotation from the *British and Foreign Medical Review*:—“M. Lombard, struck with the almost identity of the symptoms observed at Dublin and Geneva, while follicular lesion was absent in two subjects examined by him in the former town, in none dying in the latter, was induced to infer (in a first paper, wherein he cannot allow our typhus and his typhoid fever to be ‘specifically distinct’) that typhus fever is more a general disease affecting the whole constitution than a malady depending on any local inflammation, or any local change of structure,” and that various circumstances ‘serve to impress upon this general disease a tendency to associate itself with and produce various local ailments.’ In a second essay at settling the pathology of fever, ‘a change comes over the spirit of his dream;’ typhus is perfectly distinct from typhoid fever; it is an Irish disease, being disseminated throughout Great Britain by Irish emigrant labourers; and, further, it is identical with the gaol or camp typhus of French writers.’ This total change of opinion in the short space of less than a little month is particularly instructive. The last version involves the idea of dissimilarity between typhoid fever and camp typhus—a notion repudiated, as we have seen, by Louis. That the Irish peasantry can be justly charged with being the originators and propagators of the continued fever of Great Britain is utterly disproved by the statistical inquiries of Dr. Cowan, and the logical

inferences of Dr. Staberoh. 'Expliquez moi, mon cher,' said a French to an English diplomatist, 'expliquez moi, je vous prie, votre système financier; mais dépêchez vous—je n'ai que cinq minutes.' M. Lombard's five minutes were excellently well spent."

Dr. A. P. Stewart has lately published an essay, in the *Edinburgh Medical and Surgical Journal*, with a view to prove that the fever of Paris and that of this country are "totally different diseases." Though we perceive the marks of a highly-cultivated mind in its pages, yet there is much advanced that is very illogical; much which brings forcibly to our mind the truth of the old adage—" *Impedit præjudicium animum, ne possit cernere verum.*"

Dr. Stewart frequently assumes as fact what requires to be proved. I will merely quote one instance of this infringement of the rules of reasoning. "The fact," he observes, "that the mean duration of typhus is about one-half that of typhoid fever, is one that perplexes considerably the advocates of their identity." He states that the mean duration of typhus is twenty-one days, consequently that of typhoid must be about forty-two days. Now so far from this being the mean duration of dothinerterites, we find that it only amounts at the utmost to twenty-two days and a half. This is apparent from the facts quoted by Dr. Stewart himself. Dr. Shattuck states that the mean duration of those cases in which the glands of Peyer were diseased was twenty-two days and one-fifth; and in those without this lesion, it was twenty-four days and a half. Again, the mean duration of twenty-five cases of Parisian dothinerterites was only nineteen days. And still further Dr. Jackson states that the mean duration of two hundred and fifty-five cases of this affection was exactly 22.019 days. With what degree of propriety Dr. Stewart can assert that the mean duration of dothinerterites is double that of typhus I will leave my readers to judge, when they take into consideration the above facts. Again, with regard to the evidence afforded by the therapeutic effects of remedial agents, for the identity or non-identity of the two diseases, Dr. Stewart observes: "From the treatment of the two diseases we can infer but little." Without paying the slightest regard to this principle, he imme-

diately proceeds to prove their non-identity by certain putative results of treatment.

I am aware that several recent writers have divided the continued fever of this country into the typhoid and the typhus. They consider that each is quite a dissimilar affection, differing in its origin, symptoms, and morbid anatomy. The former they make identical with the Parisian fever, and, like it, characterized by follicular lesion; whilst they view typhus fever as being a general disease, in which no local affection exists, and as being identical with the gaol or camp fevers of French authors. 1st. The origin of the two diseases, we are told, is quite different; that typhoid fever is neither propagated nor originated from contagion, either in this country or in France; whilst, on the other hand, typhus fever is never originated from any other source but contagion. I need scarcely remark that, so far as this country is concerned, there have been no series of facts brought forward to prove the non-contagious nature of typhoid fever; and, with regard to the disease in France, every person conversant with the recent works published by French writers on the subject must be well aware that the contagious character of their fevers is far from being a settled matter; on the contrary, that many of the most distinguished writers advocate the contagious nature of the disease. On the other hand, contagion is not universally admitted to be the sole origin of the typhus fever of Great Britain. If these remarks be correct it must necessarily follow that the advocates for a dissimilarity in the origin of typhoid and typhus fevers have taken for granted that which requires to be proved. Their arguments are founded on two very glaring sophisms. I may add that Louis repudiates the notion of any pathological difference between the fevers of Paris and camp or gaol fevers. If this be true, our typhoid fever must be the same as the camp fever, and consequently, according to their own showing, similar to the typhus of Great Britain.

2dly. Difference of symptoms. I think the proof on this point is singularly defective. If these writers can appreciate a characteristic difference of symptoms, they should make it known to the profession in such a manner as

we would be able to say in what case follicular lesion existed, and in which instance there was no local affection. No such thing, however, has been pointed out for our guidance. If this difference of symptoms be an indefinite something which cannot be expressed, its importance in the treatment of fever cannot surely be of any great moment. Those who are unable to perceive the difference are not surely deserving of the ridicule with which their dulness of observation has been treated. Dr. Stewart, who advocates this doctrine, says:—"In 1836 I was much struck with the simultaneous occurrence, in the wards of the Glasgow Fever Hospital, of two sets of cases in which the symptoms (however little most of them might seem to differ when viewed individually) presented, when taken collectively, characters so marked as to defy misconception, and to enable the observer to form, with the utmost precision, the diagnosis of the nature of the disease and the lesions to be revealed by dissection."—Edin. Med. and Surg. Journal. In 1836 I attended the Glasgow Fever Hospital with the view of studying the phenomena of fever, and I failed to perceive the distinction observed by Dr. Stewart. The observations which I then made are completely opposed to the opinions which he advances. This no doubt may have been in consequence of my powers of observation not being sufficiently acute or cultivated; and it may be owing to the same cause that I cannot perceive how cases which were so similar individually as almost to defy any distinction to be made between them, can present, "when taken collectively," a difference so very marked "as to defy misconception."

I can easily understand how individual cases presenting slight differences in their phenomena may be characterized, when viewed collectively, by a general similarity. It is, however, above my comprehension to understand the reverse. It appears to me that when a difference exists in the phenomena of individual cases, in the indefinite manner alluded to by Dr. Stewart, this difference must become more obscure and undistinguishable when such cases are taken collectively. If Dr. Stewart had informed us how individual cases of dotheninterites are to be distinguished during life from typhus

fever, he would have conferred a great boon on the profession. Even if a collective dissimilarity exist, such a distinction can be of no use in guiding us in the treatment of the disease—can be of no avail in the management of a single case.

3dly. Difference of the morbid appearances. With regard to this I would merely observe, that a distinction in the pathology of any class of diseases, which can only be perceived at a post-mortem examination, in a practical point of view is not only perfectly useless, but may prove injurious by giving rise to an uncertain and vacillating plan of treatment. The difference between the cases of continued fever of this country seems to me to be analogous to the dissimilarity which takes place in cases of other febrile affections, such as variola, rubeola, scarlatina, &c. &c.—a difference of degree, but not of nature; at all events we have not seen decided evidence of any other distinction.

With respect to the pathological identity of the fevers of France and Great Britain, I would observe, it is a very singular circumstance that though these are marked by nearly similar symptoms during life, and often present the same morbid appearances, yet they differ in their pathology. The pneumonia, rheumatism, pleuritis, and hepatitis, of London and Paris, are acknowledged to be similar in their pathology. I cannot determine on what grounds the fevers of the two places can be viewed as non-identical in their pathology, when the more prominent symptoms they present are similar; there being as little dissimilarity at least in this respect as occurs either in our provincial hospitals, or that which takes place during different epidemics, or even during the prevalence of the same epidemic. The American physicians maintain the identity of the fever of that country with the fever of Paris. Dr. Jackson, a most accurate observer, states that "from 1833 our fever has been the same as it formerly was; and, in every case where an examination has been made, the morbid changes have been found to be the same as described by M. Louis. In neighbouring places a similar confirmation of the disease has been furnished from different sources." Now, with the exception of Dr. Gerhard, I am not aware of the

identity of the fever of the United States with the typhus of Great Britain being disputed. The inference from this must be obvious. Few will deny but that a settlement of this vexatious question is much to be desired. The matter is one of deep importance; and I trust that, from the spirit of investigation which at present actuates the profession both in Great Britain and on the continent, the primary pathological condition in fever will ere long be clearly elucidated, and its treatment consequently placed on something like philosophical principles.

There has been much said and written to show the absurdity of viewing the anatomical character of fever as the cause of the disease. A writer in a late number of one of our periodical reviews, laments sneeringly the stultified perception of those who cannot see any difference between them. In order to show the ridiculousness of these unfortunate amaurotics, he instances small-pox, and asks if any person would for a moment consider the anatomical character (pustules) of the disease as its cause. No great acuteness is necessary to perceive the difference which exists between the anatomical character and the cause of any disease. It is so palpable, that every person must observe it on the slightest reflection. The difference is simply this, that the anatomical character of fever, or any other affection, is the disease itself. The cause is some agency, either appreciable or inappreciable by us, which gives rise to the disease. The idea of the anatomical character of fever being its cause involves the glaring absurdity of follicular enteritis generating itself, or, in other words, that which has no existence causing its own existence. Logically speaking, therefore, the anatomical character, either of fever or any other disease, cannot be viewed as its cause. We must not, however, forget that, if follicular lesion be the anatomical character of fever in the same sense as infiltration and consolidation of the pulmonary texture are the anatomical characters of pneumonia, we are bound to conclude, from the strongest analogy, that the intestinal affection constitutes fever—is essentially the disease; the primary source from which all the characteristic symptoms have their origin, and upon which lesion, to a certain extent, the continuance of

the patient's illness depends. I say to a certain extent, as the *origo mali* may, through sympathy, give rise, in other important organs, both to functional and structural diseases that may prove much more serious to the life of the patient than even the diseased condition in which they originated.

Some apply the term typhus fever to a series of symptoms characteristic of the malady; and in this sense they are correct in viewing the primary local disorder as the cause of the disease. In the same way many view congestion, thickening, and opacity of the membranes of the brain, with effusion, as the cause of meningitis; whereas, strictly speaking, these are merely the anatomical characters of the disease—the origin of the symptoms, but not the cause of the disease. The same remarks apply to continued fever. Intestinal disease being the source from which the symptoms originate, we must adopt means which have power to cure the primary disorder, in order either to remove or mitigate the sufferings of our patient; on the very same principle as we would adopt measures to cure congestion, and hepatization of the lungs in pneumonia, or the inflamed state of the mucous membrane of the large intestines in dysentery.

I regret to find that the knowledge of the pathology of fever is viewed even by some eminent physicians as a matter of little or no moment in our treatment of the disease. Dr. Corrigan, of Dublin, in a clinical lecture published in the *MEDICAL GAZETTE**, asserts, that "from pathology we cannot deduce our treatment of fever." In this lecture, he takes great pains to shew that though it were fully proved, and universally admitted, that lesions of the gastro-enteritic mucous membrane, or of the follicular glands, gave rise to fever, yet in our treatment we must not have any regard to these conditions, but, on the contrary, we must direct our efforts to subdue the constitutional disturbance and the general functions of the system. If the views of Dr. C. be correct, it is absolutely worse than useless to spend our time in the investigation of the pathology of fever. Our minds, indeed, would be as profitably employed in discussing any of the propositions of Martinus Scriblerus, or of

* Vide *MED. GAZ.*, vol. xxviii., pp. 12, 13.

his man Crambo, as in endeavouring to ascertain the pathological condition from which the functional derangements in fever originate. I perfectly agree with Dr. Corrigan that, in the advanced stages of typhus, when the cerebral, circulatory, respiratory, and secretory organs, are in a complete state of disorder, the primary pathological condition requires comparatively little attention, to that which these severe lesions demand. On the other hand, it is surely unsound reasoning to maintain, that, because in the progress of typhus, we find such alarming disturbance arising, and requiring our most assiduous attention, we cannot derive any advantage from a knowledge of the cause by which this constitutional derangement was originated, or, in other words, we must not apply the resources of medicine to remove the cause, but to mitigate the effects.

[To be continued.]

FACTS AND IMPRESSIONS ON MEDICAL SUBJECTS.

(For the London Medical Gazette.)

[Continued from page 759.]

WE proceed to lay before our readers a few more extracts from this little volume, which we before judged far too leniently, and are this week disposed to consider as a mere jumble of cases, evincing a total want of method and philosophical arrangement in the author's mind. Independently of the offence we are entitled to take at this, our bile is further moved by the absence of general considerations and fine-drawn trains of reasoning from his statements. For it is not enough that facts should be presented to the reader, but he should likewise be shewn how to think. He should therefore have suggested to him, in set general terms, all the possible influences — such as those of sex, age, climate, occupation, temperament, habit, diathesis, general and partial sympathies, continuous, contiguous, or remote — which bear upon any given particular instance, in consequence of their bearing upon all; and he should be taught to look at every feature of every case in a concatenation accordingly. We have, indeed, always been surprised at the anomaly that the art of reasoning was perfected more

than 300 years before the Christian era; and that the art of observing was not methodized till 1600 years after; as if, forsooth, the observation of nature was a more difficult effort than ratiocination! It is much the reverse. Any one can understand in the Hunterian Museum, the facts of the animal economy so lucidly displayed there. But it is well known, that it required a very different and most laborious effort on the part even of clever men, to follow John Hunter's verbal disquisitions; so, even at the present day, his profound reasonings are less regarded by the ignorant vulgar, than his facts. We should here, as always, follow Nature. Does Nature present to us the sweet milk and rich nut of the cocoa-tree immediately, and at once? No. — First there comes the thick, tough, stringy, coat of interwoven fibres; then follows the dense, hard, uncrackable shell; and then, and then only, the fruit. So it should be in all, and happily is in many, medical writings.

But now for our extracts.

Simple method of preventing the bones coming through the skin in bed-ridden persons.—"A gentleman, aged 46, suffered severely for more than twelve months with general subacute rheumatism. In the day he has been capable of moving about with the support of a servant, and of sitting up with little discomfort. The difficulty of maintaining him in a state approaching to ease, occurred at night: he could not lie on either side for more than a few minutes, for the pain which arose in that time in the shoulder and arm rested on; and he had not strength to turn himself under the weight of the bed-clothes, could he have borne the pain of the effort. So the only posture in which he could be stowed was on his back. But as he was extenuated to the last degree, the skin in time became sore at the extremity of the sacrum, and at the points of the elbows; and at each of the latter, a collection of fluid formed, as well as a firm swelling at the point of pressure on the occiput. Likewise the heels burned intensely after an hour or two at night, and the knees became painful from being kept straight; while to move and shift the knees and feet under the weight of the bed-clothes, was most painful. All these evils I remedied in the following

manner:—A common pillow was tied by two tapes, ten inches apart, over a cylindrical sofa cushion: this was placed below the knees, each of which, therefore, had a sunken resting-place upon the pillow, in the flexed position, which admitted the sole of the foot, in place of the heel, to be brought to bear upon the bed. Below the loins and pelvis was laid a flat cushion of common ticking, stuffed with horse-hair; the cushion having an oval opening in its centre, towards three inches in length, which received the end of the sacrum: the cushion, when not flattened by pressure, was about three inches deep, so the feet, knees, and extremity of the back, were provided for. But there remained the elbows, and likewise something was wanted to obviate the pain of the middle of the back, produced by the elevation of the pelvis on the cushion. Both these wants were supplied by laying a blanket four times folded across the upper part of the mattress. It was contrived that the folds of the blanket should be exactly thick enough to support the patient's back and shoulders at the same height as his pelvis; that their lower edge should come as low as the upper edge of the cushion, but that it should not descend so low as the olecranon, so that the elbows rested *on nothing*. The head was easily managed. These contrivances of course were invented gradually; when perfected, they enabled the patient to have complete repose at night, with the assistance of 30 to 60 drops of laudanum to tranquillize him, and remove any disposition to shift his posture. By twelve hours' repose thus obtained every night, and occasional rests during the day in the recumbent posture, this patient's strength, though reduced by his extreme emaciation to its minimum, was so husbanded, that he was great part of the time as capable as ever for a few hours each day of any exertion; not physical, his hand even retaining, where force was not required, its former steadiness and certainty, so that he could draw with correctness. And so he continued, employing himself usefully, when so reduced that a little fatigue would have puffed his life out. It may be well, likewise, to mention, that to save the end of the back-bone in sitting, the most commodious plan was to place a soft com-

pressible cylindrical sofa cushion on the front of a common chair, and an air-cushion vertically against the back of the same. The first came of course under the middle of the thighs, between which and his back the patient divided, with varying pressure on each, the task of his support, the end of the spine touching nothing. All this may appear very trivial. May the reader always think so."

Treatment of cerebral lesions in children and young persons.—"One learns through an acquaintance with pathological museums, what an extraordinary extent of cranial and cerebral lesion a patient may survive. Now, in early life, the restorative powers are for the most part at the maximum. Recoveries, therefore, from severe cerebral injuries, ought to be then most likely; and with proper management it probably is so. But the very force of vitality then prevailing, may require the treatment to be suitably modified. This remark will be found to apply to the following case:—Suppose, in a child, or young person, fracture of the cranium with depression, torn dura mater, wounded brain, and extrusion of portions of lacerated cerebral substance, attended with more or less stupor; what practice should be followed? Unquestionably in an adult under these circumstances, one would elevate the depressed bone, aiming, however, at removing the least portion of the parietes of the cranium compatible with disengaging the part depressed; and one would be anxious that there should remain a free, but small and narrow channel of escape, for blood or matter from within the cranial cavity. My impression, founded upon instances, of which I shall mention two, is that in young persons the adoption of the same practice would be wrong; and that the proper practice is to do nothing, but to keep the child perfectly still, its head cold; and by little food, by bleeding, by repeated doses of calomel, to keep the circulation under. If there is a small wound in the integuments, at which fragments of brain appear, *not to enlarge it*; if there is no wound (when it certainly is expedient to make one) not to divide the skin for a greater length than an inch, and to close the wound after having cleansed away the extruded brain.

A year and a half ago, I was sent for

to see a child, about four years of age, which had fallen a height of twelve or fourteen feet. I was not at home, and did not see it till the following day. In the meantime, Mr. Shaw was good enough to attend for me. There was an extensive fracture running longitudinally above the middle of the right parietal bone, with sensible depression, a small wound of the scalp towards the posterior part of the fracture, with fragments of brain in it; and more or less stupor, and palsy of the opposite arm and leg, were present. Mr. Shaw enlarged the wound sufficiently only to satisfy himself of the great extent of the fracture. The child was much in the same state the next day. The only practice followed was that recommended above; and the child gradually recovered: and the only ill consequence now remaining is some weakness of the right hand and arm. It was about five weeks before the wound healed, from which there had taken place a very considerable discharge of matter and ichorous fluid. In a few days after the injury, there had risen, likewise, a longitudinal swelling, which pulsated strongly, in the line of the fracture; moderate pressure was maintained on this by sticking-plaster. What inward changes have taken place, it is difficult to say; but there exists now a longitudinal space of the integuments about three inches by half an inch, at which strong pulsation is to be felt, and where the bone has wholly disappeared. The cases of *hernia cerebri*, which I have witnessed in children, have done so ill, that I am persuaded a similar extent of recovery would not have ensued in this case, had the depressed bone been meddled with. Considering the extent and complication of the fracture, it is further presumable, that even if the integuments had been more freely divided, *hernia cerebri* would have followed."

"A healthy lad, aged 18, fell out of a stable loft, about fourteen feet, on the stones of a mews. I saw him shortly after; he was then sensible, but confused; he was bleeding freely from the nose, and the right eyelids were swelled and black with ecchymosis. The pulse was 66. The skin was not cut, but I could feel a transverse fracture with considerable depression, an inch and a half above the right eyebrow. I divided the integu-

ments, and found extruded fragments of brain upon the fractured bone. The depression was longitudinal, about the third of an inch at its greatest depth. It was the upper part of the fractured *os frontis* that was thus driven in. A vertical fissure ran downwards to the orbit. Availing myself of the latter, I removed with Hey's saw two very narrow triangular strips of bone from the lower margin of the fracture, which set the edge of the depressed portion free. With a lever I poised the latter up, but not quite to its former level. There was considerable bleeding from a cerebral vessel, and cold was applied to the head, but the bleeding did not stop till the evening, when the lad had become faint and low. The edges of the incision were brought together with sticking-plaster. After forty-eight hours, pain supervened in the upper part of the head; leeches were applied, and faintness again followed. A small pea-like protrusion of the brain took place in the course of the next few days, at the middle of the wound. This was repressed by strips of sticking-plaster. The lad was allowed tea and gruel, only; he was kept in the horizontal posture, with the head slightly raised, and cold applied to it. In a month, upon this system, he appeared to be well. But he was now ravenously hungry; and though cautioned to be moderate, he appears not to have lived with sufficient prudence. Accordingly, in about three weeks, he had what seemed a bilious attack, with vomiting, pain in the head, and a pulse reduced to 50. After this attack he did not seem to rally again, but remained weak, and languid, and ailing; but his pulse had got back to the natural standard; when, after some days, it fell again to 66, and he had shivering, followed by pain of the right eye, with drooping of the eyelid, and intense pulsating pain at the back of the right side of the head. This pain continued; and sometimes pain was felt at the vertex, sometimes in the forehead. The tongue was always furred, brown, but not dry. He had no inclination for food, and was indisposed to rise from bed. The cicatrix was sometimes full, pulsating, prominent, tender; at other times not so. Calomel was given to touch the gums. He gradually became worse. The pain in the back of the head became intolerable; the cicatrix on the

forehead was now constantly heated, red, turgid, and more and more prominent. After several days, having punctured it with a grooved needle, I opened the cicatrix with a lancet, when half an ounce of pus escaped; and in the course of the next three hours, about an ounce and a half more. The pain in the back of the head was worse for half an hour after the puncture; it then entirely went away; and for that evening the lad felt quite relieved. This was twelve weeks after the accident. However, things continued to go wrong. *Hernia cerebri* took place; and the boy died within three weeks afterwards. On examining the head, there was nothing to account for the pain at the back part, which had formed so marked a feature in the case. But the fracture was found to have extended some way backwards, and the temporal bone had been extensively fissured, and part even depressed; slightly, indeed, but enough to have bruised the cerebral substance, which yet had recovered itself, being not vascular, but of a uniform ashen brown, at the part which had been bruised. Perhaps, if in this case the extruded brain had alone been removed from the wound, and the bone not touched, the lad would have had a better chance of surviving. He might, no doubt, on the contrary, have gone wrong much earlier, through evils which the operation was intended to prevent. For in another case, in a child, not very dissimilar, where from the absence of symptoms I waited, upon their super-vention, extensive suppuration within the cranium had already taken place, and the case ended fatally. And certainly, in the case of the lad, the immediate cause of his going wrong was the disregard of the injunctions given to himself and his family, with whom he lived, to continue for several months the strictest regimen, and most cautious mode of life in every thing."

Hernia cerebri.—In the treatment of *hernia cerebri*, two things are to be borne in mind. One is, that the mass which protrudes, except upon its surface, is generally sound brain. The other is, that the protrusion does not take place merely in consequence of the wonted support of the bone and dura mater being away, but owing besides to an unwonted force in the cerebral circulation, which drives out


the brain. We are led by the first consideration to be averse from removing the protrusion unnecessarily; for the more cerebral substance lost, the more severe and lasting will be the consequent hemiplegia. By the latter consideration we are encouraged to look forward to the cessation of enlargement in the tumor, to its partial subsidence, finally to its cleansing by ulceration and throwing off superficial sloughs, and to its surface granulating. So the main indications are to use every means of lessening cerebral action, and of mechanically repressing the increase of the extruded mass. To fulfil the latter purpose very considerable pressure may be made, and a useful means towards it is the employment of a concave shield of moderately thick sheet lead, fitted to the tumor, upon which the sticking-plaster and bandages may be made to press with considerable firmness. In one of the most remarkable cases of *hernia cerebri* which I have seen, the cranium, upon the right side, had been broken like an egg-shell into several portions, and the dura mater had been torn. There was at first some stupor, with stertorous breathing, from which the patient recovered on my lifting up a depressed portion of the bone; but in the course of a few days the brain began to rise, and there was so much inflammation of the integuments, that it was most difficult to combat it at all. In a short time there had arisen a large oval prominence of cerebral substance, from which the integuments had shrunk, and two or three isolated portions of bone, with the dura mater, had separated, leaving it exposed. The surface was smooth, secreting, brightly vascular, being covered with a layer of organized lymph, quite unlike the dark greenish surfaces, with sloughy shreds, or crusted with a film of dry coagulum, which *hernia cerebri* commonly presents. The case ended fatally.

In general the texture of the protruded portion is either natural, or differs only in an increase of vascularity. But in one case, in a child, the brain, which was extruded, had in part an appearance like that of cartilage; so firm, elastic, and of a sort of blueish-white, was it, when sliced away. When the surface is foul, and sloughy, a weak solution of chloride of lime, or of nitric acid, may be applied to it daily with

advantage. The only occasion for removing part of an hernia cerebri is, when it has become so large, that you cannot make sufficient pressure without breaking down the mass, and risking laceration of the parts next below. Then a thick ligature, of hatter's silk or trolling line, may be passed round the base of the protruding portion, and the knot drawn strongly, so as to bite deep into the mass: each day subsequently, by twisting the ends, the grip of the ligature may be rendered tighter. But this practice is very blind and barbarous, and unsatisfactory; although upon its employment I have known an amazing improvement take place in the condition of the patient, who has ultimately recovered. In the case to which I allude, I had to apply three ligatures in succession; the disposition to protrude lasting from five to six weeks; when, ceasing, the surface cleared itself gradually and became covered with healthy granulations. The hernia cerebri had taken place upon my removing a portion of bone, dead from disease, of an irregular form, but as large as a dollar. It had, I found, become detached from the dura mater, which was covered by a growth of dark sloughy granulations. I had not ventured to try to remove the bone earlier, as the necrosis was siphilitic, and the portion affected appeared to be perfectly immoveable. But the patient being taken with an epileptic fit, and numbness of the opposite arm, left me at length no choice; when the adhesion, perfectly firm, cartilaginous almost, which retained the dead bone in its place, was found to be to the integument alone. The dead bone admitted of being easily lifted from the dura mater, but had to be elaborately dissected from the scalp, to which it held—a most important lesson.

Foreign bodies lodged in the Urethra.

—The most unpromising case of this description which I have met with was the following:—A wood-engraver fancied he had a stricture, and to benefit it he introduced along the urethra a metal tool, of which I adjoin an outline, used in his art to trace parallel lines. While so engaged, he was taken with a fit of sneezing, when he let go of the instrument; the latter by its weight slipped further inwards towards the bladder, and disappeared. When I saw the patient



some hours afterwards, he was in pain; the blunt end of the instrument rested in the bladder, the pointed end stuck in or against the membrane of the urethra, and could be felt just anteriorly to the scrotum. It occurred to me to avail myself of a part of Civiale's original instrument for drilling calculi, the canula namely, and three-branched tube, without the perforator. This contrivance I passed down in its closed state to the graver's tool; having felt which, I allowed the branches of the instrument to expand, by withdrawing the canula. At the same time I advanced the branches of the instrument about an inch, which in their expanded state necessarily enclosed the pointed end of the tool; upon which I drew them together, so as to seize it, by readvancing the canula. The tool so seized was easily drawn along and out of the urethra, without further lacerating it. Calculi lodged in the urethra, and a portion of broken catheter I have extracted by means of the same instrument; which, completely superseded as it has been by the improved methods in lithotomy, deserves still to be retained as the best urethra forceps we can employ. I have recommended

Messrs. Everil and Mason, of St. James's Street, to make this instrument with the simple construction, which is sufficient for it as an urethra forceps.

MEDICAL GAZETTE.

Friday, March 4, 1842.

“Licet omnibus, licet etiam mihi, dignitatem *Artis Medicee* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso.”

CICERO.

TABLES OF METROPOLITAN MORTALITY.

Two years have now elapsed since the Registrar General began to publish weekly tables of metropolitan mortality. The steadiness with which these have been carried on reflects the high-

est credit upon the department over which Mr. Lister presides, and more especially upon Mr. Farr, to whose able direction this labour is mainly entrusted. Mr. Farr has this year presented us with a summary of the results for the fifty-two weeks of 1841, in one broad sheet, an early copy of which has, through the kindness of that gentleman, been placed in our hands. We propose on the present occasion to lay before our readers a sketch of the leading results deducible from this valuable document, accompanied with such comments as the several subjects treated of may appear to warrant.

The census of last year gives the population of London at 1,870,727 souls; viz. 874,139 males, and 990,558 females. There is, therefore, an excess of 169,419 females. The mind more readily comprehends the vastness of this population, when we follow out the geographical details. By these it appears that London is divisible into five towns, averaging a population of 375,000 each, viz.—

West London	300,705
North London	365,660
Central London	373,806
East London	392,496
South London	438,060
Total	1,870,727

The census of 1831 gave the population of the same districts 1,594,890. In ten years therefore London has increased its inhabitants by 275,837 persons, being at the rate of 27,583 per annum, or about 76 daily. If we make some addition to the above for the sailors and others who were afloat in the River on the night when the census was taken (and who were not enumerated), together with the current rate of increase (76 daily), we shall find that London at the present moment contains certainly not less than 1,900,000 persons.

The mortality in this population has

been during each of the last four years as follows:—

1838 (365 days)	52,698
1839 (365 days)	45,441
1840 (364 days)	46,281
1841 (364 days)	45,284

Four years . . . 189,704

This gives an annual average of mortality of 47,426. The deaths during the past year would thus appear to fall below the average rate. The comparative mortality in the several districts or divisions of the metropolis may be seen in the following table:—

Deaths in 1841 in	
West London	6599
North London	8261
Central London	9333
East London	10,004
South London	11,087
Total	45,284

From this table it appears that the Western parts of London are relatively the healthiest; a fact which the better construction of the houses, the width of the streets, the elevation of the soil, the employments and comparative opulence of the inhabitants, will at once satisfactorily explain.

Of the 45,284 deaths occurring in 1841, 22,995 were males; 22,288 were females (sex of one person not stated), giving an excess of 707 deaths among the males, notwithstanding the vast numerical superiority of the females.

The comparative mortality of the four seasons in the metropolis is well illustrated in the following table:—

Deaths during the	
First Quarter of 1841	13,713
Second Quarter	10,404
Third Quarter	10,406
Fourth Quarter	10,761
Total	45,284

The insalubrity of the early months of the year is hardly more remarkable than the uniformity of the mortality during the remaining nine months.

The comparative mortality at diffe-

rent ages is shewn in the following table :—

Deaths in London in 1841.

From birth to the age of 15	20,780
Between the ages of 15 & 60	15,167
At 60 years and upwards	9,266
Ages not specified . . .	71

Total 45,284

Nearly one-half of the deaths, therefore, are of infants and children.

We come now to consider the several diseases which carried off the metropolitan population during the last year, and may begin by a tabular view of the principal diseases, arranged in the order of their relative importance :—

1. Consumption	7326
2. Pneumonia	3668
3. Natural decay	3373
4. Convulsions	2778
5. Hooping-cough	2278
6. Hydrocephalus	1739
7. Dropsy	1720
8. Asthma	1351
9. Typhus	1151
10. Violence	1148
11. Debility	1114
12. Small-pox	1053
13. Heart affections	993
14. Measles	973
15. Gastritis and enteritis	957
16. Teething	913
17. Apoplexy	866
18. Sudden deaths	759
19. Palsy	751
20. Bronchitis	665
21. Scarlet-fever	663
22. Cephalitis	615
23. Diarrhœa	465
24. Hepatic affections	436
25. Croup	391
26. Cancer	373
27. Atrophy	363
28. Child-birth	345
29. Tabes mesenterica	261
30. Thrush	260
31. Erysipelas	251
32. Mortification	241
33. Inflammation	238
34. Influenza	220
35. Hydrothorax	208
36. Epilepsy	181
37. Abscess	169
38. Hæmorrhage	165
39. Ileus	130
40. Scrofula	105

Consumption, we see, stands still immeasurably beyond all other diseases with reference to mortality. It destroys very nearly one out of every six who die in London. The deaths by consumption are singularly irrespective of season and atmospheric vicissitudes. They amounted in the four quarters of the last year to 1806, 2025, 1823, and 1672; and in the four quarters of 1840, to 1885, 1844, 1779, and 1737, respectively. The steadiness of the deaths by consumption in London is very remarkable, and is shown in the following table :—

Deaths by consumption in London	
in 1838	7687
„ 1839	7104
„ 1840	7247
„ 1841	7326.

The average weekly deaths by consumption is 141 throughout the year; and in the winter season it rises to 142. These facts are strikingly illustrative of the statements regarding the prevalence of consumption among the English troops in warm countries, and especially in the West Indies, which the records of the Army Medical Board attest.

Small-pox, which was so fatal in 1838, being then third on the list, is now reduced to be the twelfth. The mortality of that year was singularly great, extending to more than six thousand above the average of the three succeeding years. The great prevalence of small-pox and typhus fever in 1838 will account for a large share of this extra mortality. Small-pox was then fatal to 3817 persons; in 1841, only to 1053. Typhus fever then destroyed 4078 persons. During the last year it proved fatal only to 1151. These two diseases therefore destroyed in 1838, 5691 persons more than they did in 1841.

The mortality by small-pox fell off in the most remarkable manner in the second quarter of 1841. The table

gives 605, 252, 128, and 68, as the deaths by small-pox in the four quarters of 1841. This corresponds very curiously with the admissions into the Small-Pox Hospital, which we find recorded in the Morning Post of Feb. 12. They were as follows:—

	Admissions.
1st Quarter of 1841 . . .	202
2d Quarter	86
3d Quarter	47
4th Quarter	22
<hr/>	
Total	357

Total deaths at the hospital during the year, 74, or 21 per cent. Hence it appears, that only one-thirteenth part of the deaths by small-pox occurring in the metropolis take place at the Small-Pox Hospital.

Instructions were issued by the Registrar-General early in the year 1841, to separate the deaths by small-pox in the unprotected from those which take place after vaccination, but the table before us does not announce the results.

Hooping-cough has been the great epidemic of 1841, carrying off 2278 of the population (and almost exclusively of the *infantile* population) of the metropolis. The deaths by hooping-cough during the preceding years were as follows:—1838, 2083; 1839, 1161; 1840, 1069. Hooping-cough, therefore, has been twice as fatal this year as in either of the preceding years. We have often had misgivings as to the propriety of placing hooping-cough in the same category with small-pox, measles, scarlatina, and cholera. It is certainly more dependent on season than any of those disorders. Besides which, we have always felt the difficulty of distinguishing deaths by hooping-cough from those by infantile pneumonia. A comparison of the Registrar-General's tables, however, has convinced us that it must keep its present place among epidemic maladies. The quarterly deaths by hooping-cough during 1841

were as follows:—655, 530, 459, 634; total, 2278. Fatal as the hooping-cough was last year, it is even more so this year. During the first six weeks of 1842, the deaths by hooping-cough amounted to 388. In the corresponding period of last year, they were only 262.

While on this subject, we cannot avoid expressing our wish that it might be made compulsory on medical men to sign a certificate of the cause of death in every instance. Whether this could be done without the stipulation of a moderate fee, may be doubted, but we think that the advantage gained would be well worth such a sacrifice. We might then hope for results still more accurate than those which we now possess. Instructions might then be issued, which would ensure both accuracy and uniformity; now, alas, quite hopeless. This plan might, at any rate, be adopted in the first instance, without much difficulty, in the metropolis. There are, we believe, about 1600 medical practitioners in the metropolis, and the deaths are, on an average, under 1000 weekly. The demand, therefore, upon the time of each medical man, even were the work gratuitous, could not be very heavy. So long as the law permits certificates to be signed by the masters and mistresses of workhouses, the matrons of hospitals, the nurses attendant on private patients, in short, by any one present at the death, it is hopeless to expect pathological accuracy. Time, which has done so much for us in the way of national registration, may safely be trusted to do yet more. The march of national improvement is slow, but not the less sure.

If the suggestion we have now made were carried out, we might then reasonably hope to see teething thrown out from the catalogue of maladies. This most natural and healthy process is, however, set down as a *disease*,

causing in London, in 1841, 913 deaths, and in 1839, throughout England and Wales, 5016 deaths. This is not as it should be. Teething is no disease. It is the remote cause of disease, which may prove fatal either by affection of the head or abdomen. In the one case, the death should be entered under the head of hydrocephalus; in the other, under that of atrophica, or diarrhœa.

Measles has not been particularly prevalent in 1841. The quarterly deaths by it were as follows:—158, 147, 260, 408: total, 973. It appears at present to be on the increase, 160 having been carried off by measles in the first six weeks of 1842, and only 104 in the corresponding period of 1841. Measles would seem to prevail less in the winter than in the other three seasons. The average weekly deaths by measles during the four last years were 23. The average during the four winter seasons of the same years reached only to 15. Scarlatina is equally irrespective of season. 32 is the weekly average of the four years; 25, of the four winter seasons. Scarlatina is very low on the list of the fatal disorders of 1841, as the following table shows:—

Deaths by scarlet-fever in London	
in 1838	1524
„ 1839	2499
„ 1840	1954
„ 1841	663

Scarlet fever was the master epidemic of 1839.

Convulsions and hydrocephalus are the great complaints by which the infantile part of the population is everywhere thinned. During the past year, they have proved fatal to 4517 lives. This is about the average. The numbers recorded in the two preceding years were as follows:—1839, 4669; 1840, 4685. In the fatal year 1838, the deaths by these complaints amounted to 5188. That the deaths recorded under the head of Convulsions are

almost exclusively infantile may be shewn in this way. During the first six weeks of 1842, there have died by convulsions in London 324 persons, of whom only one has exceeded the age of 15.

Pneumonia is another of the scourges of infantile life. The deaths by this disease, in the four quarters of 1841, were as follows:—1274, 736, 727, 931. Total, 3,668. The influence of the atmosphere on this disease, and generally on the rate of mortality in the metropolis, is a point which the yearly statement, just published, is well calculated to illustrate. A meteorological table for each month of the past year is given *in extenso*. Also shorter meteorological tables for each of the ten years from 1838 to 1841. The general result is, that a low state of the barometer usually attends a high rate of weekly or monthly mortality. Every weekly return is now accompanied by a notice of the variations of the barometer, hygrometer, and thermometer, so that the relation of mortality to atmospheric variations may henceforth be easily investigated. The average quarterly mortality in London, deduced from the comparison of four years (1838 to 1841), is 14,856. The average mortality of the four winter seasons is 13,224.

Having now drawn the attention of our readers to the diseases at the top of the scale, we may shortly advert to those at its foot. Only one person in this great metropolis died of carbuncle, and only one of disease of the pancreas. The deaths by hydrophobia amounted, in 1841, only to 3. Six died of chorea; 15 of ague; 28 of cholera; 29 of syphilis; 23 of worms.

The mortality by diseases purely surgical is very small. There died of stone, 17; of stricture, 15; of fistula, 13; of aneurism, 36; of hernia, 103. In process of time it may be practicable to ascertain, by means of these

tables, what proportion of these cases have been preceded by an operation.

The deaths by acute, as compared with those by chronic disease, offer a curious subject of investigation. The former, of course, are liable to great variations. The uniformity of the latter, under all varieties of climate and season, is a circumstance equally worthy of observation. The deaths in London by acute febrile disease, in 1841, amounted to 20,067; by consumption, 7,326; by violence, 1,148; in childbirth, 345; by the several varieties of chronic disease, 16,398. These last are the natural or regular modes of human decay. The principal of them are old age, debility, dropsy, asthma, apoplexy and palsy, ileus, mortification, aneurism, and the disorganizations of the heart, stomach, and liver. The triumph of medical skill would be best shown in the diminution of the numbers of those who die of acute diseases, as compared with those who die of these forms of slow but steadily progressive decay.

Before we conclude this abstract of metropolitan mortality, we would throw out a few hints for the improvement of the tables. We should like to see syphilis and hydrophobia removed from the class of epidemic diseases. Diarrhœa and thrush have as little claim to the character of epidemic maladies. Their natural situation is with the diseases of the abdominal viscera. The diseases of the organs of locomotion may, with perfect pathological propriety, be united to those of the integumentary system. Gout should be placed in that class, and not with diseases of uncertain seat. Scrofula, tumor, and abscess, may be transplanted to the same locality. Deaths by intemperance may be added, without any risk of serious error, to those by delirium tremens. Atrophy should be united to tabes mesenterica.

With these hints we take our leave of Mr. Farr, grateful to him for the instruction which his indefatigable exertions have afforded to us.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

DR. WILLIAMS IN THE CHAIR.

Feb. 22, 1842.

A Case of Partial Dislocation of the Humerus forwards. By JAMES DOUGLAS, Lecturer on Anatomy at the Medical School, Portland Street, Glasgow. [Communicated by F. Le Gros Clark, Esq.]

THE object of the author in relating the present case, with the history of which he is unacquainted, although a drawing of the scapula and newly-formed socket accompanied the paper, is to combat an opinion expressed by Mr. South, published in the 23d volume of the Transactions of the Society, viz. that partial dislocation of the os humeri forwards could not exist without fracture of the coracoid process. The new socket is an inch broad by an inch and five-eighths long, hollowed in both directions, and its inner posterior edge is distant about a quarter of an inch from the coracoid notch.

Laryngitis—Operations. By JAMES WILSON, M.D., Physician to the Middlesex Hospital.

After remarking on the inexpediency of allowing patients to reach an advanced period of the local affections before the operation is performed, Dr. Wilson expresses his opinion that the operation may not be too late, for a chance of success, even though respiration should have ceased.

He illustrates, however, the expediency of the early operation by analogies drawn from his experience in pleurisy, in which the early removal of effused fluid has appeared to prevent the permanent compression of the lung. He then proceeds to state two cases—one of chronic, the other of acute laryngitis—both recovering after the operation.

In the first case, that of a woman, delirium, cold perspiration, fixed contractions of pupil, had taken place: the stethoscope being used no air was heard to pass: the pupil was insensible to light. Before the stilette was introduced she had evidently ceased to breathe.

A tube, first straight, afterwards a curved one, was left in the opening made by the operation; the latter shape being less irritating to the larynx. Finally, the curved tube was dispensed with. In the course

of the person's recovery she was brought under the influence of mercury.

Three years after the operation she was seen enjoying good health.

Six days before the young man, who is the subject of Dr. Wilson's second case, was brought into the hospital, he had been labouring under a severe cold, with cough, hoarseness, and a sense of choking.

These symptoms had increased to a very high degree when he came in. After being put into a warm bath, he was attacked with a very severe paroxysm. Three hours afterwards, symptoms not improving, laryngotomy was performed, with immediate great relief. In the progress of the recovery a piece of false membrane came away. The tube was retained from Nov. 15, to Dec. 18, when being taken out to be cleaned it could not be returned. Two years after the operation, he was known to be in good health.

In both these cases, the crico-thyroid membrane was pierced by a trocar, which place Dr. Wilson recommends for the operation. He makes an admission, that the inferences drawn from these cases are more applicable to adults than to children. The struggle of the latter, and the pliancy and want of prominence in their larynx, increasing the difficulties of the operator.

The paper closes with an account of two other cases, in which life was prolonged by the operation, but the patients ultimately died, the lungs having been affected, previously, with irremediable disease.

Dr. James Johnson mentioned a case in which he had assisted in performing tracheotomy twenty-seven years ago on a man who was at the time at the very point of death. He perfectly recovered, and had ever since enjoyed excellent health, wearing a large canula in the aperture, which had, however, grown so callous, that he could often breathe freely for a considerable time without the canula. Dr. Johnson believed that in this case the glottis had become completely closed, for repeated attempts had been made to introduce bougies through it without success. The man had never been able to speak since: and it seemed to him (Dr. J.) an anomaly in one of the cases in the paper, that the patient's voice was audible, even when the canula was in the trachea. He thought this case of his own patient illustrated the propriety of operating much earlier than was usual: had the trachea been opened two or three days sooner, the recovery would probably have been complete without the necessity of wearing a canula.

Dr. Watson related a case in confirmation of the occasional success of the operation, even at the latest period; although he had

no doubt that many patients perished because it was not performed soon enough. It was that of a woman under his care who had long suffered from an affection of the larynx, with frequent attacks of excessive dyspnoea. In one of these, before assistance could be rendered, she had even ceased to breathe; but Mr. Arnott opened the trachea, carried on artificial respiration for a short time, and the patient ultimately recovered sufficiently to leave the hospital with the wound healed. Some months afterwards, however, she was found dead in her bed at her own home, having, as he believed, been suffocated by a recurrence of the spasm of the muscles of the glottis. He thought the apparent contradiction between different cases — some patients dying when the operation was performed under seemingly very favourable circumstances, and others recovering when it was performed at the very last moment — depended on the coincident condition of the lungs. When suffocation came on rapidly, though the immediate danger of the patient might be very great, yet the lungs were probably in a condition such that they might at once return to the performance of their functions when air was admitted to them; but when it came on more slowly, they had probably during the continuance undergone various changes, from effusion of serum, &c. which rendered them almost unable to carry on respiration independently of the affection of the glottis. As to the effect of an opening in the trachea upon the voice, he could remember two cases at least in which the patients spoke audibly, though they had the canula in.

Mr. Arnott detailed further the case alluded to by Dr. Watson. The woman had died with a malignant ulceration of the larynx and trachea, in the course of which the spasms, which had rendered the operation necessary, occasionally supervened. He had no doubt that in one of these she died; for, as far as the body was examined, there was nothing else to account for death. He thought that in adults the operation with the curved trocar was to be preferred to that with the knife: for it was both more easy and more secure against hæmorrhage. The chief difficulty in both arose from the incessant movement of the larynx and trachea with the trocar: this could be avoided by grasping the larynx firmly, and in spite of the patient's momentarily increased struggles, to hold it firmly and still till the trocar was thrust in. In children, however, though he had used the trocar, he doubted whether it were the safer instrument; the trocar was incessantly moving, so small and easily yielding, that it was not impossible the trocar might slip aside and wound the carotid artery. After the operation, as often

as the canula had to be taken out for cleaning, the best way of introducing it again was to pass it in upon a blunt trocar, which was directly afterwards withdrawn.

Mr. Perry related a case in which it was always known when the canula in the trachea had become obstructed by the patient's voice becoming instantly audible. In this case also a large but very short canula had been found much more convenient than one of any other form.

Mr. Arnott, to illustrate how long the voice might be lost, and yet be again completely recovered, related the case of a young woman who had been, he thought from some hysterical affection, voiceless for sixteen years. During the whole time she had never uttered a sound above the very lowest and hardly audible whisper. She was treated by electro-magnetism, the current being passed through the throat in the direction of the vocal cords, and she slowly recovered; so that her voice became naturally audible, and of an ordinary tone. Subsequently to this, however, she again became completely silent, and she remained so at the time he last saw her.

The President related two cases, in which, after mercury, sarsaparilla, and a variety of other medicines, had failed to produce healing in chronic ulcerations of the larynx, he had found the greatest benefit derived from the use of oxide of platinum. Given in doses of about a grain every six hours, it had been followed by gradual healing of the ulcers, and the complete recovery of the patients. In doses of three grains it generally acted as an emetic.

MIDWIFERY.

To the Editor of the Medical Gazette.

SIR,

As the following case presented several rather unusual symptoms, I shall feel obliged by your giving it a place in your valuable periodical if you should think it sufficiently interesting.—I am, sir,

Your obedint servant,

JAMES KIRK, M.C.

405, Gallowgate, Glasgow,
February 1st, 1842.

July 27, 1839.—Was called at midnight to attend Mrs. S—, a healthy young woman, aged about 22, in her first confinement. On arriving, learnt that labour had commenced at 8 o'clock that evening, and that pains, though weak, have continued regular since that time. Os uteri cannot be discovered on examination, but head can be felt through superior wall of vagina.

3 A.M.—Os uteri far back, admitting only point of finger, head presenting; pains pretty powerful.

6 A.M.—Labour has been going on vigorously since 3 o'clock; os uteri dilated to rather more than the size of a shilling; lips thin, and applied tightly over child's head.

10½ A.M.—Pains have been regular and strong since 6 o'clock, os uteri dilated the size of half-a-crown, bowels not having been moved since labour began: advised an enema of salt and warm water.

12¼ Noon.—Bowels opened freely by enema; labour still farther advanced; waters have been draining away for some time; pains very powerful.

4 P.M.—Labour has been going on very vigorously since 12 o'clock, but head has made very little, if any, progress for the last 2 hours, being arrested at outlet of pelvis; the expulsive efforts are very strong; the countenance is of a dark red colour; and I have just detected slight emphysema of right side of face and neck. Applied the short forceps immediately, and delivered the head with the face towards the symphysis pubis: the body followed with the next pain, and the placenta an hour afterwards. I had previously suspected that the face was turned towards the pubes, but owing to the impaction of the head was not able to introduce my finger sufficiently high to satisfy myself on this point.

The infant was a female, large and vigorous; head a good deal elongated, and slightly marked with the instruments; in other respects quite healthy.

As the patient was drenched in perspiration, directed her wet things to be taken off and replaced by dry ones previously aired before the fire; also that she should be kept cool and quiet, and receive no stimulants.

I am of opinion that the arrest of the head in this case depended partly on the circumstance of the face being turned towards the pubes; and partly on that rigidity of the os externum, which is so commonly met with in a first confinement; and which was present in this case in a very marked degree.

Five days after delivery, up till which time she had gone on very favourably, the emphysema having entirely disappeared two days ago, this woman was suddenly seized with severe pain in the region of the uterus, followed by an increased lochial discharge.

℞ Tincturæ Opii, gtts. xxx. formâ haustus;
bag of salt to abdomen, and castor oil in the evening.

6th day.—Better, but pain of abdomen not yet gone.

℞ Submur. Hyd. grs. iij.; Pulv. Doveii, grs. vi. M. One every third hour till bed-time; sinapism to abdomen.

7th day.—No pain or tenderness of abdomen on pressure; no complaint of any kind.

8th day.—Complains of pain and difficulty

in making water, also of being made uneasy by a small pile.

℞ Spiritus Ætheris Nitrosi, gtts. xxx. ex aqua ter quotidie. Pile to be bathed with solution of acetate of lead.

10th day.—Had risen incautiously yesterday; complains now of slight tenderness of abdomen.

Foment the abdomen with flannel wrung out of hot water, for an hour. Continue the other remedies.

11th day.—Belly still tender, pulse 80.

Hot turpentine to abdomen. Continue others.

12th day.—Pain of abdomen rather worse; pulse as on yesterday: hot turpentine was not applied as directed.

℞ Submur. Hyd. grs. iij; Pulv. Doveri grs. vi. M. One every fourth hour. Apply the hot turpentine immediately, and if pain is not relieved, repeat it again in the evening.

13th day, 10 A.M.—Pain of abdomen has been much aggravated since yesterday evening, and is at present so severe as to prevent turning in bed; uterus is discovered lying in left iliac region: it feels very hard to the touch, and pressure over it causes extreme pain, which stretches up along the peritoneum towards the false ribs of same side: tongue white in centre, red at edges; thirst considerable; pulse 108 small; has taken none of the powders for the last 12 hours.

V. S. ad 3xviii.; hirudines xii. parti dolente, et supra morsus cataplasma calidum ex farini lini. To take one of the powders every second hour.

10 P.M.—Pain of abdomen much easier, bowels open: in other respects nearly the same as in the morning.

Emplastrum Cantharidis abdomini. Continue the powders during the night.

14th day.—Complains of pain from the blister only; has great thirst, and perspires profusely.

Dress blistered surface with mercurial ointment: continue powders.

5 P.M.—Has no complaint; mouth slightly sore and ill-tasted; great thirst; perspires freely; tongue brown and furred; pulse 80, bowels open; makes water more easily.

Powders to be stopped.

15th day.—Pain and difficulty of making water much increased; feels cold, though skin is hot and moist: is much troubled with flatulence; tongue as before; has great thirst: pulse 63.

℞ Ol. Ricini 3vi. cum Ol. Menth. Pip. gtts v. statim. Æther, which was stopped two days ago, to be given as before. An ounce of wine three times daily. Blistered surface to be covered with cotton.

Evening.—Bowels freely open from oil: is little better, feels very weak, pulse 50.

℞ Sol. Mur. Morph. gtts. xx. hora somni. Wine to be continued during the night.

16th day.—Much better: pulse 60.

Continue the Æther and wine during the day, and the anodyne at bed-time.

After this period, this woman complained only of difficulty in making water, for which she was ordered an anodyne enema during the day, with an opiate at bedtime; while the bowels were kept open by small doses of castor oil: she was advised to use the warm hip bath as soon as she could leave her bed.

About six or seven weeks after her confinement, when she had returned to her usual state of health, she one day, when evacuating the contents of the bladder, passed a pretty large urinary calculus. I am now inclined to look upon this body as being in some measure the cause of that distressing strangury so frequently felt, and so often complained of, by my patient; although, during the period of my attendance, I attributed it solely to the extension of the inflammation from the uterus to the bladder.

OBITUARY.

(From a Correspondent.)

ON the 16th inst. (Feb.) at Manchester, John Pendlebury, M.D., Physician to the Royal Infirmary, &c.

Dr. Pendlebury was distinguished among his medical brethren for zeal and talent of a high order. Educated for the profession, he passed a considerable time at the medical schools of Dublin and Paris, as well as at the University of Cambridge, where he came out first medical graduate of his year, and was admitted a fellow of the Philosophical Society. As an accomplished scholar, strictly honourable and exemplary in all the relations of life, of amiable and attractive manners, and possessed of a thorough knowledge of his profession, it is not surprising that he should have been early called upon to impart to the rising generation that information with which he had so amply enriched his own active and inquiring mind. He was accordingly solicited, shortly after commencing practice, to become a teacher at the Marsden Street School of Medicine, where he lectured successively on Medical

Jurisprudence, Materia Medica, and Practice of Physic; and they who had the gratification of listening to his discourses, will not soon forget his graceful and vigorous style of thought and reasoning, and the interesting bias which he imparted to the ordinary routine of medical instruction. His introductory lectures were indeed perfect models, and we hope that the publication of some of these in a permanent form may be secured to posterity as a memento of the sterling ability of their gifted author. Although but little known to the literary world, Dr. P. has left behind him a considerable collection of MSS. He, many years ago, translated Delpech's valuable work on Distortions of the Spine, which at a future period it was his intention to publish, together with much valuable additional matter, the fruit of his own research and observation. Hitherto, however, he had been more bent on collecting than diffusing information, but there is every reason to believe that in due season the public would have been benefited, perhaps not the less from the delay, by the mass of knowledge which he was gradually storing up. It is therefore much to be lamented that so promising a member of the profession should have been cut off thus early in his career,—a career which promised to be both lengthened and brilliant. The regret is not diminished by the knowledge that in all probability he fell a victim to the zealous discharge of his duties at the Fever Hospital. Dr. P. had only reached his 35th year. Possessing the many excellent qualities we have mentioned, it is almost superfluous to add, that by those who had the good fortune to be intimately acquainted with him, the recollection of his virtues can only be effaced by the ruthless hand that has removed him from the sphere of his active usefulness. Nothing could have exceeded the tribute of respect paid by his friends and colleagues on the occasion of his funeral.

RECEIVED FOR REVIEW.

Mr. Thomas Brown's Letters to Dr. George Gregory on Vaccination, &c.

Barth and Roger on Auscultation. Translated from the French, with Notes by Patrick Newbigging, M.D., F.R.C.S. &c.

ROYAL COLLEGE OF SURGEONS.

LIST OF GENTLEMEN ADMITTED MEMBERS.

Friday, Feb. 25, 1842.

Charles Smith.—Edmund Henry Peters.—H. Girdlestone.—Joseph Schofield.—Henry Norton Shaw.—Thomas Patrick Matthew.—Richard Tilston.—Edward Turner.

APOTHECARIES' HALL.

LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.

Thursday, February 24, 1842.

John Rayner, Wales.—John Little M'Michan, Bradford, Yorkshire.

A TABLE OF MORTALITY FOR THE METROPOLIS,

Shewing the number of deaths from all causes registered in the week ending Saturday, Feb. 19, 1842.

Small Pox	5
Measles	31
Scarlatina	4
Hooping Cough	55
Croup	10
Thrush	2
Diarrhœa	4
Dysentery	0
Cholera	0
Influenza.....	4
Typhus	22
Erysipelas	6
Syphilis	1
Hydrophobia.....	0
Diseases of the Brain, Nerves, and Senses ..	131
Diseases of the Lungs, and other Organs of Respiration.....	296
Diseases of the Heart and Blood-vessels	32
Diseases of the Stomach, Liver, and other Organs of Digestion	64
Diseases of the Kidneys, &c.....	6
Childbed	6
Ovarian Dropsy	0
Disease of Uterus, &c.	2
Rheumatism	2
Diseases of Joints, &c.	2
Ulcer	1
Fistula	0
Diseases of Skin, &c.....	0
Diseases of Uncertain Seat	108
Old Age or Natural Decay.....	88
Deaths by Violence, Privation, or Intemperance	22
Causes not specified	3
Deaths from all Causes	907

METEOROLOGICAL JOURNAL.

Kept at EDMONTON, Latitude 51° 37' 32" N. Longitude 0° 3' 51" W. of Greenwich.

February	THERMOMETER.		BAROMETER.	
Wednesday 23	from	36 to 47	29.39 to	29.16
Thursday . 24		38 45	29.08	Stat.
Friday . . 25		28 42	29.09	29.27
Saturday . 26		23 42	29.27	29.48
Sunday . . 27		25 42	29.47	29.31
Monday . . 28		32 45	29.54	29.39
March				
Tuesday . 1		39 47	29.20	29.42

Wind, S.E. and S.W.
On the 23d, afternoon clear, otherwise cloudy; rain in the evening. The 24th, cloudy, rain in the afternoon. The 25th, morning overcast, with snow and rain, otherwise clear. The 26th, afternoon clear, otherwise overcast, rain in the morning and evening. The 27th, morning overcast, with heavy rain, afternoon cloudy, wind boisterous, evening clear. The 28th ult. fine morning; afternoon and evening cloudy, with rain. The 1st inst. morning overcast, rain fell in the night, otherwise clear.

Rain fallen, .745 of an inch.

CHARLES HENRY ADAMS.

WILSON & OGILVY, 57, Skinner Street, London.

THE LONDON MEDICAL GAZETTE,

BEING A
WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

FRIDAY, MARCH 11, 1842.

LECTURES ON THE PRINCIPLES AND PRACTICE OF PHYSIC,

Delivered at King's College, London,

BY DR. WATSON.

Acute gastritis: symptoms; anatomical characters; treatment. Chronic inflammation of the stomach; thickening of the mucous membrane; ulceration; symptoms and treatment of the disorder. Cancer of the stomach.

WHEN the peritoneum suffers acute inflammation, the inflammation usually spreads with rapidity over the whole surface of the membrane. This is characteristic of inflammation of the serous membranes generally. But it is not so with the other tissues that compose the alimentary canal. Inflammation of the mucous membrane may be, and often is, very limited in extent: and the different portions of the intestinal tube, as they differ in function, so also they differ somewhat in their diseases, and still more in the symptoms by which those diseases are revealed. Not being fettered by any artificial system of arrangement, I shall take the course which promises to be practically most useful, and consider separately the maladies of the several parts of the alimentary canal in the abdomen, extending my remarks occasionally to the whole of the tube, when speaking of disorders that are common to all portions of it.

Let me, then, in the first place, draw your attention to the organic diseases, and the morbid conditions, of the *stomach*.

It is remarkable, all things considered, how seldom the stomach is affected with *acute inflammation*. Scarcely ever do we find either the organ as a whole, or any one

of its tissues separately, the subject of *spontaneous* acute inflammation. What is described in books as *gastritis*, means inflammation of the *mucous membrane* of the stomach: and almost all that we know, for certain, of this disease, we derive from observation of the effects of strongly irritant substances upon that membrane. Idiopathic gastritis, in an acute form, I never saw. Acute gastritis, from the contact of corrosive or acrid poisons, I have frequently seen: and a highly interesting affection it then becomes. This is a subject that cannot be thoroughly discussed in this course of lectures: neither may it be altogether omitted.

When an irritant poison has been received into the stomach and excites inflammation there—or when acute inflammation arises from any cause—the symptoms which mark that inflammation are pain, usually of a burning character, in the epigastrium; with frequent vomiting, especially upon the entrance of anything into the stomach; and often with hiccup, and with tension of the upper part of the abdomen. To these local symptoms are added fever of a low type; and a small and weak pulse. At first, indeed, the pulse, although small, is generally sharp and hard; but it soon becomes thready and feeble. The muscular power undergoes a corresponding depression; the patient is pale and faint, with collapsed features, cold extremities, and a damp skin.

In all this we see a strong tendency to death by *asthenia*. It is clear that the subdued state of the circulation is dependent upon the inflammation, for it is often relieved by the remedies of inflammation. In acute gastritis, as well as in peritonitis, you will find that the pulse expands, becomes more distinct and full, under early bleeding: sometimes even while the blood is flowing.

Upon this remarkable sympathy between the heart and the stomach I have frequently had occasion to insist. You are aware that a smart blow upon the epigastrium may

put a sudden stop to the movements of the heart, and induce mortal syncope; without leaving any local trace of its operation. On the other hand, a person in a state of extreme exhaustion and faintness, will revive at once, upon swallowing into the stomach an ounce or two of brandy, and recover his pulse and colour much too speedily, to allow of our attributing these effects to the absorption of the alcohol into the blood. Dr. Alison suggests that the depression of the circulation may be attributable to the peculiar sickening pain which accompanies inflammation or sudden injury of the stomach. Whether this sensation be always present or not; and whether, when present, it is the cause, or the consequence, of the failing action of the heart, I cannot tell you. But I make no doubt that the sympathy is an instance of the reflex property belonging to the nervous system. At all events, it is important for you to know that the mode of dying in these cases is precisely what Bichat describes as *death beginning at the heart*.

The pain that accompanies gastritis is augmented by pressure upon the epigastrium. It is increased also by the full descent of the diaphragm, and the *breathing* is consequently short and constrained. In the most exquisite cases of gastritis, produced by chemical or mechanical irritants applied to the interior of the stomach, the inflammation probably reaches and involves, more or less, the peritoneum. The patients speak of the pain as a pricking and burning sensation; it is attended with great anxiety and restlessness. The sufferer is tormented with extreme thirst, while all that he drinks, even cold water, is almost instantly rejected by vomiting.

Hiccup does not always accompany acute gastritis. It sometimes occurs early; but more generally it comes on late in the disease, when the patient is sunk and much debilitated.

The bowels, in this complaint, are sometimes bound: sometimes, on the contrary—especially when the inflammation has been caused by corrosive poison—dysenteric diarrhoea ensues, with much griping and tenesmus.

Such, then, are the symptoms that indicate the existence of acute gastritis; but you ought to be aware that they occur in varying combinations, and with different degrees of severity; and consequently that the course of the disease is not uniformly the same in all cases. When the symptoms are the most violent, and the progress of the complaint is the most rapid, the peritoneal coat of the stomach is usually, I believe, more or less implicated.

Intense inflammation of the stomach may be expected to be rapid in its progress. It

may destroy life within twenty-four, or even twelve hours. When it is fatal, it generally is so within a few days; and death takes place by fainting; with a remission of the pain, sometimes very sudden, and sometimes occurring only just before dissolution. But as idiopathic gastritis is rare, *fatal* idiopathic gastritis is, of course, still more so. Louis states that during six years' experience at La Charité, in which period he noted the details of 6,000 cases of disease, and of 500 dissections, he did not meet with a single instance of fatal idiopathic gastritis. The subject derives almost all its importance, therefore, from its connexion with poisoning; and the many interesting points of inquiry which arise out of that connexion will be brought before you by the Professor of Forensic Medicine. This consideration is a great satisfaction and relief to me; because I find that the limits of my own course will not permit me to go into any detail in this matter.

The morbid appearances to be looked for after death by acute gastritis, are redness of the mucous membrane, softening, sloughing, and even (after the action of strongly corrosive poisons), perforation of all the coats of the stomach.

I wish particularly to caution you against being misled by mere *redness* of the interior of the stomach; or of the inner surface of the alimentary canal in general; or of *any* mucous membrane; and, indeed, I may add, of any *serous* membrane also. Redness and inflammation have been made, too often, convertible terms. Persons finding the inner surface of the stomach red, have hastily concluded, from that circumstance, that suspicions of poisoning, which had arisen, were well founded. We are indebted to Dr. Yelloly, in the first instance, and to M. Billard and some other Frenchmen, in the second, for correcting this error—an error which not only was of importance in questions of imputed poisoning, but has run through and vitiated almost the whole of pathology, both in ancient and modern times. Mistaking mere redness for evidence of inflammation, Cullen divided gastritis into two species—one of which he called gastritis *erythematica*; and he inferred from observation of cases in which redness of the membrane had been met with after death, that this peculiar kind of inflammation of the mucous coat of the stomach might take place, without fever, pain, or vomiting, or any other symptom indicative of gastritis: whereas it is almost certain that, in the cases to which he refers, there really was no inflammation at all. So also Morgagni, puzzled by intestinal vascularity, was disposed to attribute the absence of pain, in what he believed to have been inflammation of the bowels, to a paralytic affection which blunted the sensi-

bility of the parts; and Haller concluded, from so constantly meeting with this vascularity in *his* inspections of the body, that inflammation of the bowels was almost always present in fever of all kinds; and was frequent in every other complaint. And the same doctrine has been strenuously inculcated of late years, as I dare say you know, by Broussais, in France, and adopted by a vast host of his disciples. Finding the lining membrane of the stomach and intestines red and vascular in most of the bodies of patients who had died of fever, Broussais concluded that fever depends, in all cases, upon inflammation of the gastro-enteric mucous membrane. You will perceive that this doctrine must exercise a vast influence upon the *practice* of those who entertain it. If inflammation constitute an essential part of any disorder, it follows that the *remedies* of inflammation will be adapted to that disorder; and thus, even so slight a mistake as that may appear to be, against which I am now cautioning you, of regarding every surface which is red as being inflamed also, may lead to very mischievous views in respect to treatment.

The redness that is *independent* of inflammation may be of various kinds; but the principal cause of it is venous congestion. "The appearances of vascular fulness (says Dr. Yelloly) in the villous coat of the stomach, whether florid or dark-coloured, in distinct vessels, or in extravasations of different sizes, are not to be regarded as unequivocal marks of disease; inasmuch as they occur in every variety of degree and character, under every circumstance of previous indisposition, and in situations where the most healthy aspect of the organ may be expected." To the truth of this statement I can bear witness, having at one time of my life carefully examined, with a view to this matter, a great number of stomachs in succession, in the dead house of a large hospital. "The vascularity (according to Dr. Yelloly) is entirely *venous*, and depends on a power capable of being exercised on the artery itself at the close of life, which carries on the blood to the veins, after the further supply of fresh blood from the heart is stopped. The branched or stellated form of vessels, under which the vascularity usually appears, is capable of being *imitated*, either by injecting the veins with fine injection, or by forcing back with the finger, or the back of a scalpel, the blood from the larger branches of veins into the smaller." "And this vascularity soon becomes diffused redness, by transudation of the blood through the coats of the containing vessels, just as happens with the bile in the gall-bladder."

Redness, from mere repletion of the smaller veins, is usually extensive and undefined; except that, being influenced by the

force of gravity, it settles into the most depending parts of the organ, which are either its exclusive seat, or at any rate are of a deeper colour than the parts more elevated. It is attended with an empty state of the arteries, and with a full state of the larger veins. Hence the condition of the venous and arterial trunks, and especially of the vena portæ, should, in doubtful cases, be ascertained before the main blood-vessels are laid open and drained of their contents.

The redness that belongs to inflammation is generally circumscribed, and of limited extent; it occupies indiscriminately the upper or the lower side of the tube (for these remarks apply alike to the stomach and to the intestines); it is attended with some fulness of the corresponding arterial trunks; and it may or may not be coincident with comparative emptiness of the venous system within the abdomen. Much will depend, in this respect, upon the *mode of dying*, as I fully explained to you on a former occasion.

You will please to remember, then, in all your future investigations into morbid anatomy, that it is generally difficult, and often impossible, to determine, from the aspect of the vessels of a dead part, from its redness, that inflammation had been present in that part during life, unless the unequivocal products or effects of inflammatory action are present also.

A much more certain evidence of inflammation of the mucous membrane of the stomach and intestines, is its *softening*. This can be attributed to nothing else, except it be to decomposition; and it is well known that this membrane is slow and late in passing into the state of putrefaction after death. To certain questions respecting perforations of the stomach I shall by and by return.

I say that gastritis is most commonly the effect of poisons applied to the mucous surface of the stomach; but I must include under that head certain substances, which, to most people, are not poisonous or injurious at all, and which only become so to some persons under certain circumstances. Thus, large draughts of cold water, taken when the body is hot, and rapidly parting with its heat, and especially large draughts of cold *sour* liquors, as cider or stale beer, are apt to give rise to acute gastritis. Another occasional cause of gastritis is the ingestion of very large quantities of food at one time, especially during convalescence from any serious disorder. It is an exceedingly curious fact, too, but one which I merely mention without dwelling upon, that certain poisons introduced into the body through some other channel will cause inflammation of the mucous membrane of the stomach, with which they have *not* been in contact. Corrosive sublimate, and arsenic, excite inflammation, with ulceration or sloughing of the mucous membrane,

even when they are merely rubbed, in a certain quantity, upon the skin; or when they are inserted into the rectum.

The treatment of acute gastritis is simple. The chief nicety respects the employment of blood-letting. Early in the disease, if the pain be severe, you must *try* the effect of venesection, notwithstanding the smallness and feebleness of the pulse. How much blood you are to abstract cannot be told beforehand. Take away a small tea-cupful, keeping, meanwhile, your finger on the wrist. If the beat of the artery does not grow weaker, and still more if it becomes fuller and stronger, go on with the bleeding, and take another cupful, and another, according to the circumstances of the case and to the effects produced. Apply leeches to the epigastrium, and cover the bleeding bites with a soft, light poultice. Keep the patient, as strictly as you can, in the horizontal posture: in other words, see that the depressing influence of the disease upon the action of the heart is not aided and augmented by the position of the body. If cold water is retained, that is the best medicine which you can give by the mouth; purgatives so administered would be almost sure to be rejected; and if not rejected, they would be likely to increase the existing inflammation of the organ. Enemata are, however, extremely useful: of warm water, if the bowels are not much confined; of purgative materials if they are. After the intestines have been thus cleared—or when they are loose and irritable—opiate injections (thirty or forty drops of laudanum, with three or four ounces of starch or gruel) do much good. They often have a very tranquillizing effect upon the irritable stomach, and check the vomiting. These measures are to be pursued until the inflammation has subsided.

When any *corrosive* substance has been swallowed, I scarcely need say that pains should be taken to remove it as speedily as possible from the stomach; or to administer such remedies as are known to be capable of decomposing the poison, or of affording a specific antidote to it. Not that the stomach-pump should be employed in such cases, as it too often is. These, however, are points that must be fully treated of in the lectures on forensic medicine, and therefore I shall dwell upon them no longer here.

Chronic inflammation of the stomach is probably a very common disorder. It does not put life in immediate jeopardy; and it is often recovered from. It deranges, however, the functions, and perverts the feelings of the stomach: it gives rise to the manifold and multiform symptoms of *dyspepsia*. But *dyspepsia*, with its manifold and multiform symptoms, may be, and often is, entirely inde-

pendent of inflammation. You see, then, why the effects of chronic gastritis are various; and why the symptoms that are supposed to denote its presence are apt to be obscure, uncertain, and equivocal. I intend, before I quit the subject of the stomach, to investigate the principal circumstances that mark its functional disorders, and to describe the means which we sometimes find effectual for their relief. I shall therefore restrict myself at present to a few points which seem to have been fairly ascertained respecting chronic gastritis.

We know that chronic inflammation had been going on in the stomach when, after death, we see that its coats are thickened; or when we perceive that a portion of one or more of them has been removed by ulceration.

It is not at all uncommon to find the mucous membrane of the stomach, over a larger or smaller space, thick, granular, uneven, and of an unnatural colour. Grey, or slate-coloured, it often is. This slate colour is much dwelt upon by the French writers, as being a sure and unequivocal impress of chronic inflammation. The colour proceeds, I believe, from the operation of the gastric acids upon the blood, which, under habitual congestion or slow inflammation, is detained in the vessels of the altered part. The ulcers that result from chronic inflammatory action are usually small, varying from the size of a split pea to that of a shilling; sometimes with no surrounding vascularity or thickening at all, but looking exactly as though a piece of the mucous membrane had been struck out by a stamp; sometimes with rounded and elevated *edges* only; and sometimes they occupy *patches* of thickening and induration of the parietes of the stomach. There may be one solitary ulcer; or a few; or many. It is seldom, however, that they are numerous.

Ulcerative disease of the stomach may prove fatal in various ways. The ulcer may penetrate as far as the peritoneum, and excite inflammation of that membrane, whereby the stomach becomes adherent to the neighbouring parts. In these cases, prior or subsequently to adhesion, death may at length ensue, from gradual exhaustion and protracted suffering.

If an ulcer happen to lie over the track of a large blood-vessel in the stomach, it may eat its way into that vessel, and give rise to fatal hæmorrhage.

Or the ulcer may perforate the walls of the stomach, without any previous adhesion; and suffer the food, or the secretions of the stomach, to pass into the peritoneal cavity, where intense inflammation is lighted up, and the patient soon perishes.

Or the ulcers may at length *heal*. Of this we are certain, because we sometimes

find cicatrices marking the spots which the ulcers had occupied.

The symptoms of chronic gastritis are pain or uneasiness in the epigastrium, increased by pressure; increased also on the introduction of food, or perhaps felt only while digestion is in progress; flatulence and eructation; vomiting of mucus, and of the meals; loss of sleep; languor and debility.

Not that even these symptoms are constant in all cases. Sometimes there is no actual pain, but a sense of heat or of acidity. The vomiting too, in the outset, is occasional only; and is then attributable, often, to some error or imprudence in respect to diet. And sometimes the complaint may run nearly its whole course, up to one of the fatal terminations just now mentioned, with scarcely any other sign of its existence than uneasiness after meals, which subsides in two or three hours entirely. With the local symptoms I have been describing there are often conjoined some acceleration and hardness of the pulse: more or less thirst: a dry skin: scanty and deep-coloured urine: a red tongue; red especially at its tips and edges; patchy and fissured perhaps; or smooth and glossy, like a slice of raw meat. The throat also is frequently tender; and the pharynx and palate unnaturally vascular.

In attempting to relieve or cure chronic gastritis we have to guard against applying any thing to the inflamed surface which may be *likely* to add to the existing mischief, or which has been found, upon trial, to give pain. We employ at the same time the ordinary remedies of chronic inflammation. Leeches may be put upon the epigastrium, and repeated day by day, or every other day, in small numbers, so long as there is much tenderness on pressure. When the tenderness is less, counter-irritation is very useful: repeated blisters; or friction with the tartar emetic ointment over the region of the stomach. But, after all, the main dependence must be placed in the due regulation of the food, which should be mild and unstimulating in quality, and sparing in quantity. The well-known farinaceous substances which figure in the bill of fare of a sick chamber: arrow-root; sago; tapioca; gruel: milk also; and jellies. And even these bland articles of nourishment must be given in moderation, so as never to distend or stretch the coats of the stomach by their bulk, or to overtask its power of digestion. It is difficult to give precise rules for the management of the diet in such cases, which must be left to the common sense of the practitioner.

With respect to internal medicines, they must be such as appear to be called for by particular symptoms. Of these, which are in fact the symptoms of dyspepsia, I postpone the farther consideration. Ap-

propriate means must be used for the regulation of the bowels: mild laxatives by the mouth; emollient or purgative enemata by the rectum.

When I say that a good deal must be left, in these cases of chronic disease of the stomach, to the judgment and good sense of the practitioner, I am forcibly reminded of a most striking and instructive case, beautifully told by the celebrated Dr. W. Hunter, in the 6th volume of the *Medical Observations and Enquiries*. The perusal of that history has afforded me hints upon which I have often acted with great advantage to my patients, and with some credit to myself. As I doubt whether many of you would find immediate opportunity or leisure for referring to the narrative, and as I should spoil it by attempting to give you an abstract of it, I am tempted to read it here in Dr. Hunter's own words.

"Many years ago (he says) a gentleman came to me from the eastern part of the city, with his son, about eight or nine years old, to ask my advice for him. The complaint was great pain in the stomach, frequent and violent vomitings, great weakness, and wasting of flesh. I think I hardly ever saw a human creature more emaciated, or with a look more expressive of being near the end of all the miseries of life. The disorder was of some months' standing, and from the beginning to that time had been daily growing more desperate. He was at school when first taken ill, and concealed his disorder for some time: but growing much worse he was compelled to complain, and was brought home to be more carefully attended. From his sickly look, his total loss of appetite, besides what he said of the pain which he suffered, but especially from his vomiting up almost every thing which he swallowed, it was evident that his disorder was very serious.

Three of the most eminent physicians of that time attended him in succession; and tried a variety of medicines without the least good effect. They had all, as the father told me, after sufficient trial, given the patient up, having nothing farther to propose. The last prescription was a pill of solid opium; for in the fluid state, though at first the opiate had staid some time upon his stomach, and brought a temporary relief, it failed at length, and like food, drink, and every medicine which had been given, was presently brought up again by vomiting. The opiate *pill* was therefore given in hopes that it would elude the expulsive efforts of the stomach. It did so for a time; but after a little use, *that* likewise brought on vomiting. Then it was that his physician was consulted for the last time, who said that he had nothing farther to propose.

Though at first the boy professed that he

could assign no cause for his complaint, being strictly interrogated by his father if he had ever swallowed any thing that could hurt his stomach, or received any injury by a blow, or otherwise, he confessed that the usher in the school had grasped him by the waistcoat, at the pit of his stomach, in a peevish fit, and shaken him rudely, for not having come up to the usher's expectation in a school exercise. That though it was not very painful at the time, the disorder came on soon after. This account disposed the father to suspect that the rude grasp and shake had hurt the stomach. With that idea he brought him to me, as an anatomist, that an accurate examination might if possible discover the cause or nature of the disorder.

He was stripped before the fire, and examined with attention in various situations and postures; but no fulness, hardness, or tumor whatever could be discovered; on the contrary, he appeared everywhere like a skeleton covered with a mere skin; and the abdomen was as flat, or rather as much drawn inwards, as if it had not contained half the usual quantity of bowels.

Having received all the information that I could expect, and reflected some little time upon the case, I wished to speak with the father alone, in another room; and to give my patient some employment as well as refreshment, asked him to take a little milk in the mean time. But his father begged that taking any thing into his stomach might be put off till he got home, because he was certain that it would make him sick; "just before we set out (said he) I gave him a little milk; but he was sick, and brought it all up in the coach, before we had got many paces from the house."

In the adjacent room I said to the father, this case, sir, appears to me so desperate, that I could not tell you my thoughts before your son. I think it most probable, no doubt, that he will sink under it; I believe that no human sagacity or experience could pretend to ascertain the cause of his complaint: and without supposing a particular or specific cause, there is hardly any thing to be *aimed at* in the way of a cure. Yet, dreadful as this language must be to your ear, I think you are not to be without hope. As we do not know the cause, it may happen to be of a temporary nature, and may of itself take a favourable turn; we see such wonderful changes every day, in cases that appear the most desperate, and especially in young people. In them the resources of nature are astonishing.

Then he asked me if I could communicate any rules or directions, for giving him a better chance of getting that cure from nature, which he saw he must despair of from art.

I told him that there were two things which I would recommend. The first was not so important indeed, yet I thought it might be useful, and certainly could do no harm. It was to have his son well rubbed, for half an hour together, with warm oil and a warm hand, before a fire, over and all around his stomach, every morning and evening. The oil, perhaps, would do little more than make the friction harmless, as well as easy; and the friction would both soothe the pain, and be a healthful exercise to a weak body.

The second thing that I had to propose, I imagined to be of the utmost consequence. It was something which I had particularly attended to in the disorders of the stomach, especially vomitings. It was carefully to avoid offending a very weak stomach, either with the quantity, or quality, of what is taken down; and yet to get enough retained for supporting life. I need not tell you, sir, said I, that your son cannot live long without taking *some* nourishment; he must be supported to allow of any chance in his favour. You think that for some time he has kept nothing of what he swallowed; but a small part must have remained, else he could not have lived till now. Do you not think, then, that it would have been better for him if he had only taken the very small quantity which remained with him, and was converted to nourishment? It would have answered the end of supporting life as well, and perhaps have saved him such constant distress of being sick, and of vomiting. The nourishment which he takes should not only be in very small quantity at a time, but in quality the most inoffensive to a weak stomach that can be found. Milk is that kind of nourishment. It is what Providence has contrived for supporting animals in the most tender stage of life. Take your son home, and as soon as he has rested a little, give him *one* spoonful of milk. If he keeps it some time, without sickness or vomiting, repeat the meal, and so on. If he vomits it, after a little rest, try him with a smaller quantity, viz. with a desert, or even a teaspoonful. If he can but bear the smallest quantity, you will be sure of being able to give him nourishment. Let it be the sole business of one person to feed him. If you succeed in the beginning, persevere with great caution, and proceed very gradually to a greater quantity, and to *other* fluid food, especially to what his own fancy may invite him; such as smooth gruel, or panada, milk boiled with a little flour of wheat, or rice; thin chocolate and milk; any broth without fat, or with a little jelly of rice or barley in it, &c. &c.

We then went in to our patient again; and that he might be encouraged with hope, and act his part with resolution, I repeated

the directions with an air of being confident of success. The plan was simple, and perfectly understood. They left me.

I heard nothing of the case till, I believe, between two and three months after. His father came to me with a most joyful countenance, and with kind expressions of gratitude told me, that the plan had been pursued with scrupulous exactness, and with astonishing success; that his son had never vomited since I had seen him; that he was daily gaining flesh, and strength, and colour, and spirits, and now grown very importunate to have more substantial food. I recommended a change to be made by degrees. He recovered completely; and many years ago he was a healthy and a very strong young man."

The stomach is very frequently the seat of specific malignant disease; of cancer, in its various forms and denominations. The fatal character of this complaint; the obscurity in which it is sometimes wrapped; the possibility of overlooking it altogether, or of confounding it with disease of a more innocent character, combine to invest it with peculiar interest.

Carcinoma of the stomach has sometimes no symptoms at all, or none which the most sagacious practitioner would refer to the organ affected. Not long since I saw, in consultation, an elderly clergyman, who complained of pains in his back, which were brought on or aggravated by certain movements of the body. His bowels were costive; and purgatives always relieved his pains. He was passing lithic acid gravel. The pains were felt in or near the renal region. Several years before he had suffered in a similar manner; and had then been cured by being cupped in the loins. What was the matter here? Was it lumbago? Was there a calculus in one of his kidneys? These were the best guesses that I could make. The eminent physician whom I met, and a surgeon of no less eminence, who had seen the patient previously, had not been able to attain any more exact diagnosis. Upon this gentleman's death, which occurred not long afterwards, his disorder was discovered to have been cancer of the stomach. Excepting slight sickness a day or two before he died, there had been no symptom to direct attention to that part.

A young woman came into the Middlesex Hospital, under one of my colleagues, with a pulsating tumor in her epigastrium. It was thought, at first, to be an aneurism, and the case attracted, on that account, a good deal of notice. But the tumor subsided very much after free purgation. This led some to suppose that it was formed by accumulated fæces in the transverse colon.

There was no sickness; nor indeed any one symptom referable to the stomach. She died. The tumor was cancerous; and in the stomach. Lying in front of the abdominal aorta, it had been lifted by its pulsations.

Cases to the same effect are related by Dr. Seymour, in the *Medico-Chirurgical Transactions*; and by M. Andral, in his *Clinique Medicale*.

But even when the stomach is the organ pointed out, by the symptoms, as the probable seat of the malady, those symptoms fail, often, to indicate with any certainty its nature. The effects of the carcinomatous disease exhibit no uniformity. The ingestion of food is apt to produce great distress; but differently in different cases: sometimes as soon as the food is swallowed; sometimes not for an hour or two afterwards. Some cases are attended with much pain; some with none at all. One patient vomits continually; another has little or no vomiting from first to last.

Can these differences be in any way accounted for? Partly they may. By analyzing case after case, we approximate to a knowledge of their causes. But this knowledge is yet far from being complete.

One circumstance that has a considerable influence upon the symptoms, is the *situation* of the disease. In respect to this point there are certain general rules which are for the most part true. Still we can speak of them only as applicable *on the average*; they are not absolute or infallible.

The rules I mean are these:—

1st. That there is more suffering, *cæteris paribus*, when the cancerous disease is situated at, or very near, either extremity or orifice of the stomach, than when it occupies the intermediate parts; whether in the greater, or in the lesser curvature.

2nd. That when the cardia, and its immediate neighbourhood, is the part solely or principally diseased, the food and drink find a hindrance in passing into the stomach; but being once there, the distress is over. The symptoms are very like those of stricture of the œsophagus. The morsel reaches the bottom of that tube, and there causes uneasiness, till at length it is brought up again through the mouth, or passes gradually in the natural direction.

3rd. That when, on the other hand, the disease is limited to the pyloric end of the stomach, the food enters that bag readily enough, and remains there for a certain time; then uneasy sensations arise, and the imperfectly digested meal is apt to be rejected by vomiting.

It is the difficulty of passing the *doorway* in these cases, that gives rise to the principal suffering; the difficulty of getting into, or the difficulty of getting out of the

stomach. But when the disease is confined to the intermediate space, no such difficulty occurs; and therefore little or no pain.

You must expect, I say, to meet with individual variations from these rules. A remarkable example of such variation was presented by one of my hospital patients, in the year 1837. I have the notes of that case before me, which I will read *short*.

Simon Ailes, aged 36, admitted March 14. His main complaint was of pain in the epigastrium, always present, but augmented, in frequent paroxysms, to an extreme degree of severity. At first, pressure gave him some relief. The pain was most violent an hour or two after he ate. He was troubled also with flatulence, and with sour eructations. Occasionally a clear tasteless fluid, looking like water, rose into his mouth. His bowels were costive.

At this time his countenance was natural and placid; but it gradually assumed that pinched and anxious expression, and that peculiar yellowish hue, which are so significant of organic visceral disease. He wasted fast. At length the epigastrium became tender as well as painful: but no tumor, except the left edge of the liver, could be felt there. He died on the 11th of May, about eight months from the commencement of the pain. A week before his death he vomited some dark, grumous, offensive fluid, evidently containing blood. With this exception he had had no vomiting.

Many remedies were tried, which I do not specify, for none of them gave him any sensible or continued relief.

In the smaller curvature of the stomach we found a ragged, sloughy surface, as big as the palm of one's hand, and extending to within half an inch from the pylorus. A section of this diseased portion exhibited the characters of true scirrhus: a white and hard mass, nearly half an inch across at its thickest part. The mucous membrane of the duodenum was congested, and dark coloured. The rest of the intestines were healthy except the rectum, which was surrounded, towards the anus, by scirrhus and thickened cellular tissue, intermixed in laminæ. The gut itself was not affected.

The diseased stomach was removed, and examined by Mr. Kiernan, who found, upon careful dissection, that the trunk of the gastric branch of the par vagum ran directly into, and was lost in, the scirrhus mass. This sufficiently accounted for the dreadful sufferings of the patient.

And I am here reminded that, with regard to the structural alteration itself, there are some circumstances well worth attending to.

Andral places all these organic affections of the stomach in the class of chronic gastritis. But it is clear that he is wrong: and

you will perceive at once that it is of immense importance to recognize the specific disease from the mere result of common inflammation.

But though cancer is not, in any case, a mere product of common inflammation; neither is all that is called cancer really such. Specimens of morbid texture, misnamed scirrhus of the pylorus, are not uncommon in anatomical museums. I shew you some from our own; not so denominated, however. The correct labelling would be "*hypertrophy*." You may perceive that the cellular and the muscular tissues near the pylorus, are very much thickened. A section of the thickened parts presents an appearance somewhat like horn; and is crossed by whitish lines that run nearly parallel to each other. The morbid structure is quite definite and regular; and very dissimilar, in that respect, to the amorphous deposits of carcinomatous disease. Changes of this kind are liable to occur in the muscular tissue of this, as of other organs, whenever a permanent obstacle is opposed to the onward progress of the contents of the hollow viscus. The impediment may have been originally produced by inflammatory thickening of the textures composing the pylorus; and then the hypertrophy may, in a certain sense, be accounted a consequence of inflammation. To that extent alone is M. Andral right. He has unquestionably pushed his theory on this subject too far. Whatever narrows the pyloric orifice leads to increased effort of the propelling muscle, and to augmentation of its bulk and power. Now cancer itself, situated at, or close upon, the pylorus, may impede the exit of the digested aliment; and then it causes a gradual hypertrophy of the muscular coat. In these cases there is a mixture of the two changes: and this is one reason why they have been confounded together. Here are several preparations, exhibiting true cancer of the stomach. At the bottom of each bottle may be seen a sort of whitish powder, or sediment, consisting of some of the matters peculiar to cancer. This fact has been pointed out to me by Mr. Kiernan in the numerous specimens contained in his private collection. But there is no such deposit when the hypertrophy is not combined with malignant disease.

It has long been thought and asserted, that cancer of the stomach is not so often attended, as cancer of other parts, with a disposition to present itself in various organs of the body at the same time, or in succession. Now I believe—and I am glad to add the weight of Mr. Kiernan's authority to my statement—that this is not really so. Cancer is a constitutional affection. Where ever true cancer occurs, it is an index of the

cancerous diathesis. The error has arisen out of that confusion of one morbid condition with another, against which I have been warning you. Instances are not at all uncommon of thickening of the cellular and mucous tissues about the pylorus, producing first a mechanical impediment to the passage of the food, then more energetic muscular efforts towards its expulsion from the stomach, and at last hypertrophy of the muscular tunic. In these cases, you do not find cancer in other organs: because, in fact, there is no cancer of the stomach.

You may say that as both forms of disease are alike fatal, it signifies nothing whether there be really cancer or not. But it is always satisfactory to clear away an anomaly, and to shew that it has no real existence. Besides, you know with how much anxiety the relatives of the dead enquire concerning these matters. That cancer "runs in families" is well understood even by the public: and the distinctions I have been pointing out are surely worth learning, if they do no more than enable us to comfort the minds of the survivors, and to relieve them from the apprehension that they are doomed or likely to become the victims of cancer.

But to return to the symptoms of carcinoma of the stomach. In some cases, I say, the food is rejected by vomiting; in some cases it is not. Now it has been argued that this difference depends upon the condition of the pyloric outlet; whether it be free and open, or contracted and shut. The explanation is more plausible than sound. It is not strictly consistent with fact. Vomiting of the food has been an urgent symptom, when there was no mechanical bar to its passage into the duodenum. The pylorus is a sphincter muscle, of which the natural and habitual state is that of contraction. It yields, however, in health, to the pressure of the digested aliment, which is driven forwards by the muscular fibres that surround, and compress by their action, *the pyloric end of the stomach*. If there be a mechanical impediment, that affords a sufficient reason why the food should be thrown up again. But sometimes, I repeat, the orifice is wide open, and yet the food is rejected: and it is rejected because the disease so involves the pyloric end of the stomach, that the propelling force cannot be exercised.

When there is a mechanical obstacle, the disposition to hypertrophy of the muscular coat is conservative. But in feeble and delicate persons, the baffled muscles may never acquire strength enough to overcome the impediment; and then the very opposite condition is apt to take place: the coats all become very thin; meal after meal is re-

tained; the stomach is enormously distended, and relieves itself now and then, at distant intervals, by copious vomiting; until at last it is unequal to that effort, and the patient dies.

Sometimes the sickness and vomiting are urgent even when the stomach contains no food: and the matters rejected are of various character and appearance. They often resemble coffee-grounds, and consist, no doubt, of altered blood. Vomiting of this kind is a very pregnant sign of *organic* mischief in the stomach.

Emaciation is another ugly circumstance in these cases; and forms a strong ground of presumption that the symptoms depend upon structural disease. Yet it is not a uniform consequence, even of malignant disorganization of the stomach. Napoleon Bonaparte was very fat when he died. His omentum is described as having been "remarkably fat": and "the fat was upwards of an inch thick upon his sternum, and one inch and a half upon his abdomen."

The existence of a palpable tumor strengthens the unfavourable diagnosis. But this is far from being a constant phenomenon. It is not even pathognomonic when it does occur. The diseased head of the pancreas has been mistaken for a thickened pylorus. The stomach is liable also to be dragged much out of its place; and then a thickened pylorus may be mistaken for something else. Sometimes the form of the stomach may be distinctly traced. In the person of a medical practitioner who died lately in this neighbourhood, the shape of the organ, its occasional peristaltic motions, and the irregular and hardened pylorus, were plainly to be felt. They might indeed almost be *seen*, in the hollow and attenuated abdomen. When a tumor is ascertained to belong to the stomach, it indicates disease of the pylorus rather than of the cardia.

It is a curious feature in these malignant diseases of the stomach, that the symptoms sometimes remit in a remarkable manner; so as to excite a hope in the mind of the patient, and in that of his medical attendant, that the nature of the malady had been mistaken, and that recovery is about to take place. But the truce is not for long. Frightful disorganization is at length produced, ragged ulceration, perforation of the coats of the stomach, adhesion to the parts adjacent, which thus are constituted adventitious walls;—and inevitable death at last.

The treatment of this dreadful complaint can only be palliative. If there be pain, we are driven, sooner or later, to opium. Anodyne enemata have often as good an effect in relieving the pain as opium given by the mouth; and they have this advantage, that their constipating properties are more easily

obviated than when that drug is put into the stomach. Nutritive injections are proper when food taken through the natural channel is not retained.

Other palliative measures may be aimed at particular symptoms : of these I propose to speak when I come to the symptoms and remedies of *dyspepsia*.

REPORT OF
PAROCHIAL LYING-IN CASES,
From end of June, 1840, to February, 1842.
BY JAMES REID, M.D.
Medical Superintendent of the Parochial Infirmary of St. Giles, and St. George's, Bloomsbury.
(For the London Medical Gazette.)

670 cases—producing 678 children:—
351 males, 327 females, of which 71 were still-born; 44 premature births, 11 in a decomposed state.

Of the above 670 cases,

The breech presented in	11
Feet	8
Face	2
Face towards pubes	4
Arm	5
Funis with head (3 still-born)	5
Funis with feet (living)	1
Funis with breech (still-born)	1
Head and hand	2
Twin births	8

Convulsions	1
Retained placenta (4 accompanied by hæmorrhage)	6
Placenta prævia	1
Accidental hæmorrhage	4
Hæmorrhage after delivery	5
Lingering labour (those beyond 24 hours)	40
Syncope before delivery	1
Forceps employed	5
Cephalotomy	2
Version	5
Spontaneous evolution of fœtus	1

OBSERVATIONS. — One breech case occurred in a twin labour.

One footling ditto.

Three of the arm cases ditto.

One case of version was on account of severe hæmorrhage in placenta prævia. The spontaneous expulsion occurred in a twin case with the second child. The arm presented, and on my arrival the midwife informed me that two or three very intense pains had forced down the breech, and the child was thus expelled, still-born.

A patient subject to epileptic fits had one immediately after delivery, but I have not entered it as a case of convulsions.

One woman had borne twins in three successive labours.

Another had twins in four different labours.

In two cases the child was born in the street.

Twin Cases.

	Sex.	Living or still-born.	First presented.	Second presented.	Interval.	
1.	M. F.	Both living.	Vertex.	Feet.	$\frac{1}{2}$ hour.	
2.	M. F.	Still-born.	Breech.	Vertex.	1 „	Both putrid.
3.	M. F.	1 liv., 1 st.b.	Vertex.	Arm.	$1\frac{1}{2}$ „	Spontan. expulsion of 2d, still-born.
4.	F. F.	Living.	Ditto.	Vertex.	1 „	
5.	M. M.	Living.	Ditto.	Ditto.	1 „	Very protracted labour.
6.	M. F.	Living.	Ditto.	Arm.	2 „	Version of second
7.	M. M.	Living.	Arm.	Vertex.	$\frac{1}{2}$ „	First presentat. converted to breech.
8.	M. M.	Living.	Vertex.	Vertex.	$\frac{1}{4}$ „	Violent hæmorrhage after.

MORTALITY.—One woman in the 670 cases died (placenta prævia) on the fourth day after delivery, complicated with disease of lungs and heart.

In adding the above 670 to the 3,250, as reported in the MEDICAL GAZETTE, August, 1840, the table will stand as follows :—

Total number of cases, 3,920.

The breech and lower extremities presented

Upper extremity	23,	170
Face	17,	231

Funis	in 23, or 1 in 170
Convulsions occurred	9, 435
Retroversio uteri	1, 3920
Rupture of uterus	1, 3920
Placenta prævia	4, 980
Accidental flooding before delivery of placenta	27, 145
Ditto after	32, 122
Placenta required manual extraction	38, 103
Forceps employed	25, 157
Perforation	17, 231
Version	25, 157

Breech case : Retention of head.

Oct. 28th, 1840.—I was sent for by a midwife residing in the parish, and requested to bring the forceps, as the child had been born, all except the head, which could not pass. It was the woman's eighth labour. For a whole hour the midwife had been attempting to extract the head by pulling at the body, and with some force too, as the latter was quite black in parts from pressure. No attempt, however, had been made to adjust the head properly for passing. On making examination I found the face in the hollow of the sacrum, and on introducing the forefinger of my hand into the mouth, and very gently depressing the chin towards the chest, the head was expelled immediately without the least difficulty. A copious gush of blood and liq. amnii accompanied it.

Great ignorance had been displayed in this case, and neglect of that valuable obstetric rule "*arte non vi*;" for Mr. Wells (who accompanied me to the case), on examining the body of the child, discovered that not only was it extensively bruised, but that both thigh-bones were likewise fractured.

Forceps case.

Nov. 12th.—Eliza Gutteridge, ætat. 46, Belton Street, had already borne eleven children, two of which were still-born. She has always had difficult labours with the boys. In one case instruments were sent for, but not employed. Labour commenced at 9 A.M., on the 11th; and although the pains soon became strong, the os uteri dilated slowly, and was not entirely so till 9 P.M. The head then descended; the vertex nearly reaching the vulva, but not pressing on the perinæum. Strong and continued pains occurred, but not the least advance took place by half-past one A.M. on the 12th, although their force seemed sufficient to expel the head at every moment. As the woman began to feel faint and exhausted, I was sent for by Mrs. Backler. On examination I found the vertex low down, but the finger could not pass on either side between it and the pelvis, but only towards the sacrum. I could not feel either ear.

Finding that the pains still remained strong, but produced no effect in expelling the head, I applied the forceps with some little difficulty, and the ob-

stacle was overcome. The body passed soon afterwards. It was a large male child, with the head much elongated, and cried lustily on being released. I measured the length of the head from the vertex to the ear, and it was three inches and a half. Now the available length of an adult finger for examination very rarely will reach to that extent, and there are few so long. I make this remark, because almost all obstetric authors, even of the present day, lay it down as an axiom, "that the forceps should never be employed unless an ear can be distinctly felt." Some say it is necessary to feel both ears; and others, like Denman, give as a rule "that the ear shall have been within the reach of the finger for six hours before we have recourse to the forceps." I can only say, from my own experience, that in the majority of cases, where the forceps have proved absolutely necessary, I could not, with the greatest care, discover either ear. In some cases the close adaptation of the head (even when part of the vertex was external to the vulva) to a pelvis somewhat distorted as to its diameters, was sufficient to prevent the introduction of the finger at all, as in the present case; or if it did pass, it could not touch the ear. Not only in the cases which I publish in the present report was this generally the case, but in five other cases which have occurred to me within the last year, either in my own private practice or in attendance with other practitioners, did it likewise occur. I am pleased to see that Dr. Rigby, in his late work, has publicly stated his opinion upon this point; and I feel assured that many practical accoucheurs will concur in it. It is well known that in some forceps cases there is occasionally a difficulty in finding room even for the introduction of the second blade of the instrument in the proper direction.

Convulsions.

Dec. 27th.—Susan Somerville, ætat. 30, residing at 43, Great Saint Andrew's Street; had been married to a man æt. 61 for four years without having any family. She consulted Mr. Wells on Dec. 2d as to her health. She had become anasarcaous about the abdomen and legs, which pitted deeply on pressure. She has had no sickness, and has only once or twice felt a slight

movement about the right hypochondrium. The fluid in the skin over the abdomen sometimes causes projection of the integuments at the upper parts; at others they subside, so that they rest on her knees even. Neither the patient or her mother will believe that she is pregnant. The breasts are firm and distended, and there is a distinct areola. The os uteri could not be reached by the fingers; but the speculum shewed the whole mucous membrane of the vagina to be of a bluish tint.

Mild purgatives and diuretics were administered.

On the 27th, at half-past one P.M., I was requested by Mr. Burgess to accompany him to the case, as he had been called to it, and was told by the midwife that she had had a fit about 12 o'clock. On our arrival we learned that a second attack had occurred about 1 o'clock; and soon after we entered the room a third paroxysm took place, attended with foaming at the mouth, hissing respiration, violent struggling, and all the usual symptoms of puerperal convulsions: it lasted about seven or eight minutes. The patient was apparently a strong robust woman; her legs were very œdematous, and the labia were very much enlarged also. (I have known this state of the system to precede an attack of puerperal convulsions in several cases.) Labour, I learned from the midwife in attendance, had commenced at two A.M. The os uteri was well dilated, and the head descending properly. There was ample room in the pelvis, and the pains were apparently frequent. Insensibility and stertorous breathing continued after the paroxysm. An orifice was made in each arm, and forty ounces of blood abstracted: about five ounces more escaped in the bed. The hair was cut off, and cold pump water constantly applied to the head. As the child's head had now descended still lower, and pains continued, I left the case under the charge of Mr. Burgess, as I had to attend an appointment elsewhere. I learned from Mr. B. that a paroxysm occurred again at half-past two, and another at half-past three, when he again abstracted twelve ounces of blood from the arm. At twenty minutes to four a dead female child of moderate size was expelled.

I saw the patient at 8 P.M. She had slept, but snored much. Had spoken,

and been able to take some tea: the skin was warm, pulse tolerably full.

Vesicator. Nuchæ. Vin. Ant. Pot. Tart.,
3j. ; c. Tinct. Digital. m̄v. omni
trihora.

On the next day the blister had risen well. She was quite sensible. No pain, headache, or sickness; anasarca diminished; bowels freely opened; and the urinary secretion copious. She now took merely a diuretic mixture, which entirely relieved the anasarca, and she speedily recovered.

Forceps case.—Retained placenta.

Jan. 3rd.—11 P.M., sent for to see Eliza Colson, æt. 21, in labour with her first child. Labour had commenced at 2 A.M., and continued through the day, but the pains were not strong or efficacious. I found that she had had repeated doses of ergot administered. The pains were then strong, but there was no advance, and I learned that the vertex had made no progress for the last five hours. The finger could be passed up between the pelvis and the head at the upper part, but the ear could not be felt. There was very little space at the lower part. The patient had not felt any movement of the child for the last two days. The forceps were applied and the head was brought down, but the uterine contractions were not sufficient to expel the body. After waiting, therefore, for some time, it was extracted gently by placing a finger under the axilla on either side, and using traction. The child was dead. The head was much elongated, and measured $3\frac{1}{2}$ inches from the vertex to the nearest point of the ear. As the placenta did not come away, I, after waiting an hour, passed my hand up into the uterus to extract it. I found it lying loose, but there was an irregular contraction of the womb near the fundus, which had prevented its descent. It required little force to overcome this, and the placenta then came away easily.

Arm case.

April 8th.—I was requested to see a patient (Coveney) in the Lying-in Ward, as, according to the midwife's report, the elbow had presented with the membranes entire, and on these rupturing, the hand had come down into the vagina.

The resident surgeon, Mr. Wells, passed his hand up into the uterus, hooked a finger into the flexure of one of the knees, and turned the child. It gave a slight inspiration after it was born, and then expired. It was not quite advanced to the eighth month of foetal life.

This patient complained afterwards of inflammatory pain about the uterine region, which was subdued by venesection, leeches, fomentations, cataplasms, &c.

Forceps case.

April 16th.—I was called at half-past one, to see a woman at No. 5, Church Street, by Mr. Wells, who accompanied me to the case. First child, and at full time. Had been in labour for 36 hours; the pains latterly strong, and there had been little or no advance for some hours previously, according to the midwife's report. Neither ear could be felt, either by Mr. W. or myself, but the forceps were applied by the former, and the head soon released; it required several strong pains, however, before the body was expelled. Child still-born, and the head very much elongated: it was not measured.

Arm case.

April 20th.—Called by a midwife to a case in which labour had gone on for several hours. I found the hand of the child near the vulva. Fastening a tape to its wrist, I passed my hand up along it, and found the abdomen of the child towards the spine of the mother; high up towards the fundus I reached a knee, placed my forefinger in its flexure, and the child was speedily turned. I found this operation much facilitated by pushing up the protruding arm with my left hand at the same time. Before turning, the funis was found in utero flaccid, and not pulsating. The foot was brought down to the vulva, and a fillet placed round it, by which I used traction. The child apparently had been dead some hours.

Forceps case.

July 6th.—Mrs. Goodall, æt. 32; at No. 6, Smith's Court, Drury Lane. Married nine years to a former husband, without any family, but one year since only to the second. Labour

commenced on the night of the 5th; the liq. amnii, according to the midwife's account, escaped at 5 A.M., on the 6th, and the os uteri fully dilated by 7 o'clock. The head descended low down; but although strong pains continued, it made no further advance for several hours. Mrs. Backler drew off the urine at 2 P.M., and I was sent for at 3. In this case, not only could I not feel the ear, but, owing to the want of space, I had the greatest difficulty in introducing the upper blade of the forceps, and, after repeated trials, could not get the two blades to unite in the same direction. They would not exactly lock, therefore; but by tying the handles, and using great care in the traction, I secured sufficient hold to bring down the head.

Child still-born.

I immediately measured the head, and found the length, from the vertex to the ear, 4 inches 2 lines.

Twins: Arm presentation of one.

Aug. 16th.—Sent for to see E. Page, æt. 35, at 37, King Street, Drury Lane. One child had been born at 8 o'clock (vertex), but no uterine contraction since. On examining the abdomen, there was no doubt as to the presence of a second child; but no part of it could be felt per vaginam. The patient had lost a considerable quantity of blood. On introducing my hand, I came to what appeared at first to be a bent knee, just within the uterus, but, on careful examination, it was found to be the elbow. Strong uterine contractions now recommenced; and the further progress of my hand was strongly resisted by them, especially as the head of the child (the face towards the abdomen of the mother), was much in the way. By waiting a little, however, the hand was at length passed up towards the fundus uteri, and a knee reached. Two fingers were hooked upon it, and version was effected. As the face of the child was still towards the pubis of the mother, the body and head were turned round into the proper direction, and, by the usual method, the head was extracted. Both children lived. I should mention that, in this case, on introducing the hand in order to turn, the placenta (a large double one) was distinctly felt attached to near the os uteri.

This woman has borne twins three times.

Breech case.—Deformity of pelvis.—Crotchet.

Nov. 14th.—I was requested by Mr. Wells, to see a woman residing at No. 6, Carrier Street. Labour had commenced on the previous day at 12 A.M., and there was very slow dilatation of the os uteri. Mr. W. had been sent for by a midwife on the morning of the 14th, and found the case to be a breech presentation, but which had not made any advance for several hours. On my arrival, the presentation was found to be as described; but as there was a large portion of the os uteri still low down, it was judged expedient to allow the chance of this first being raised by the uterine action. In the forenoon, the patient was again visited; and, as there was no perceptible difference, further time was allowed for the descent of the breech, especially as, by the stethoscope, foetal pulsation was distinguished near the umbilicus of the mother. At 9 P.M., 14 hours after the first examination, the fold of the cervix uteri was still as low down, and the breech of the child not further advanced. There was now heat and dryness of the parts. No meconium had passed. The back of the child presented towards the pubes of the mother. Naegele's long blunt hook (the best instrument of the kind) was now passed over the left groin, and as strong traction was used as was compatible with the safety of the mother, but without the least effect. There was evidently great deformity in the antero-posterior diameter of the mother's pelvis; and as there was no other resource, a crotchet was now fastened on the opposite side of the child's sacrum, and double traction thus made use of. This was more successful: the breech gradually, but with great difficulty, descended, and meconium now passed away freely. The umbilical cord was exceedingly tense; and, as it was not pulsating, it was tied and cut across. The body then came down with rather more facility. On the head arriving at the brim of the pelvis, we found that it would be impossible for it to pass unless diminished in size. It was perforated, therefore, behind the ear, and when its contents had been evacuated, was drawn

away by the crotchet. The operation altogether occupied us more than two hours. It was afterwards found necessary to extract the placenta. The woman did well. This was the second labour of the patient. Her first was a vertex presentation; and after seven or eight days' labour, she says, the child was obliged to be destroyed.

Large tumor in vagina: Crotchet case.

Nov. 23rd.—I was requested by a midwife in the parish to see Mrs. Coddenham, æt. 34, residing at 22, Little Wyld Street. She was in her ninth month of pregnancy, and had complained, for some time past, of the vagina being quite blocked up, but she did not know the cause. She had previously borne three children, the last one about two years since.

She had been much troubled with a sensation of bearing down; and for some months past, the pain in coitu was acute. On examination, a large tumor, of firm consistence, was found occupying the passage; apparently the size of a large orange, with a very broad base, arising from the posterior part of the vagina, and extending from the os uteri downwards, to near the vulva. I left the case in the immediate charge of Mr. Harston, the present resident surgeon of the Infirmary, and it was agreed, should the tumor prove (as most likely would be the case) a serious obstacle to the progress of the labour, that he should puncture it with a trocar.

On the 26th, labour commenced at 6 P.M.; pains strong; os uteri dilated well, but the head of the child did not descend. Mr. Harston, on being called to the case, punctured the tumor in two places with a trocar, and about half a tea-cup of pus escaped, but did not materially reduce the size of the tumor. I was sent for at 2 A.M., on the 27th. I found the head of the child high up, and moveable. Os uteri fully dilated; a large quantity of liq. amnii had escaped, but the obstruction was to such extent, that, although strong pains continued, the head had not descended in the least; indeed, for the last five hours no progress had been made, I was informed. Judging this a good case to try the "*tractor*," I introduced it, but found it of no avail. The blades of a small pair of forceps

were introduced with ease, but I could not produce the slightest effect as to the progress of the child's head with them, owing to the space occupied by the tumor. I was at length obliged to have recourse to the perforator, as the parts were becoming hot and dry; and, with the aid of the crotchet and pincers, I was enabled to extract the child. The patient complained of much smarting immediately afterwards; but no inflammatory symptoms occurred, and she did well.

I examined the parts about a month after delivery, and found the tumor still firm in its texture, but not now projecting so much into the vagina as before, but the rectum was much pressed upon by it. The patient informed me, that since she was pregnant the last time, the dejections were much altered in size, being as small as those passed by a child. Her health had been much out of order, and, in the sixth month, she was much distressed by a stoppage of urine for three days. She now complains most of a shooting, darting pain, about the rectum, attended by a strong bearing-down sensation.

Twin Case. Shoulder presentation, converted to Breech.

Dec. 31st.—Sent for at 10 A.M. to see Catherine M'Carty, æt. 32; 9th labour. Pains commenced yesterday, slightly, but have been much stronger since 3 this morning. Mrs. Backler, the midwife, felt uncertain as to the presentation, as the membranes were still unruptured. I found the os uteri nearly dilated, the remaining portion soft and cool. The membranes were entire, and very thick and rigid; the pains strong. I thought I could distinguish the fingers through them up towards the sacrum, and an irregular hard substance at the pubes, which was moveable. I was unable to rupture the membranes by the finger, and used a pair of scissars for the purpose. The usual quantity of liq. amnii escaped, and I could now feel a hand distinctly, and the shoulder at the pubes. The woman had a very capacious pelvis, and had already borne eight children, so that my hand passed up into the uterus very easily. On pushing the shoulder to one side, I was much surprised by its (during a pain) making a species of evolution, and the breech immediately occupied its place, the

hand still remaining down towards the sacrum, near the os uteri, but above the nates. Strong pains coming on, I judged it prudent to allow the passage of the child in this posture, instead of bringing down the feet. On removing my hand the nates came down still lower, and the scrotum of the child could now be distinctly felt. A few strong pains expelled a small living male child. At this time I will candidly confess I was not aware of the presence of a second child, although my hand had been in the uterus; no part of it certainly came in contact with my hand. A few minutes, after, however, a most profuse gush of liq. amnii took place, soaking the bed completely, and running on the floor, to such an extent that a woman present was obliged to mop it up. This was suspicious as to a second child being present, and I requested Mrs. Backler to make an examination per vaginam, but she could not detect it. On feeling the abdomen, however, the doubt was removed, and the vertex of a second child soon after descended, and a living male infant was expelled. Slight hæmorrhage occurred afterwards, according to Mrs. Backler's account, but she soon checked it. Two placentæ, attached together, came away without any difficulty. Mr. Harston was present at this case.

Placenta Previa. Version.

Oct. 8th. 1841.—Catherine Savage, æt. 35; came into the house on Sept. 3d. Complained of severe cough and palpitations. She is, she thinks, about $7\frac{1}{2}$ months advanced in pregnancy, and has had lately, more than once, slight loss of blood per vaginam. It occurred likewise four months since. On examining the abdomen with the stethoscope, the uterine murmur could be distinctly heard about midway between the umbilicus and the projection of the ilium on the left side. Indistinct foetal pulsation near the navel. On the 6th I again examined her; whilst lying down the foetal pulsation could be distinctly heard, but not so when the patient stood up. Uterine murmur not so distinctly heard. I find on referring to my notes, that the opinion as to the state of the thoracic organs was most unfavourable, viz. that there was indication of hypertrophied heart, and of diseased lungs.

The slight hæmorrhage occasionally

taking place from the vagina, seemed to point out the likelihood of placenta prævia, but the situation of the placenta, as indicated by the stethoscope (if the uterine murmur does indicate the precise locality of that substance), caused me to have some doubt on that point. The spot at which the murmur was distinctly and most loudly heard, was that at which, in common cases, I have generally found it.

The patient was placed under treatment for the thoracic complaint.

Oct. 8th.—At 10 A.M. a copious discharge of coagula took place from the uterus, without much pain, but soon stopped. The midwife, Mrs. Backler, reports, that on examination the os uteri could barely admit the end of her finger.

9th.—Patient felt very low. Much pain in head. Cough very troublesome, occasionally forcing away a slight discharge from the vagina. No sleep: pains occasionally in the back.

10th.—Better throughout the day. No pain and no discharge. At 12 P.M. labour pains came on, and on examination, Mrs. Backler found the os uteri somewhat dilated, but rigid, a spongy substance lying over it, but no hæmorrhage. After an action of the bowels, at 1 A.M. on the 11th, a great discharge of blood occurred; it soon stopped, however, and there was no return afterwards of it. I had desired Mrs. Backler to send off for me immediately any hæmorrhage took place; but if it should be severe, not to wait for my arrival, but to rupture the membranes at once, and extract the child by version. On my arrival, I found her, therefore, in the act of performing this operation, as the os uteri had become sufficiently dilatable to allow of it. The placenta was separated on one side; the child's head was resting on it, and a large quantity of liq. amnii had been evacuated on rupturing the membranes. The extraction of the child was completed soon after I entered the ward, a little difficulty occurring as to the passage of the head, owing to its being slightly enlarged by hydrocephalus. No further hæmorrhage took place, and the quantity lost was not nearly so much as I have frequently seen, but the patient was in a most alarming condition. She was pale, the pulse scarcely perceptible, respiration laborious, and an incessant cough tormented her. Nothing could

induce her to keep her chest covered, as she could not bear the slightest clothing on it.

The placenta on its removal was found of a paler colour than usual, and not so firm to the touch.

Although the lungs in this case was much affected, we were obliged, in the present state of the patient, to administer strong stimuli, as dissolution threatened to take place every moment. There was no return of hæmorrhage, but the skin was clammy and cold, the pulse still keeping very low; and the woman expressed her conviction that she should die. Brandy and water produced no effect, and we then gave her the spirit alone. She took about $\frac{3}{4}$ xii. of it thus, in the space of a few hours.

At 12 A.M. she was apparently much better. Cough very troublesome, but she now speaks with a stronger voice. On applying the stethoscope to the chest, a strong impulse was given by the heart's action. She did not complain of any pain, and the lochial discharge was moderate.

Counter-stimulants were applied to the chest, and a mixture ordered, to endeavour to allay the distressing cough.

On the 12th, she was much the same, but became worse on the 13th. She had slept well during the night, but the respiration was more laborious, the pulse weaker, and the cough as troublesome. No pain in the abdomen, or sickness. Still keeps her chest uncovered.

She gradually become worse through the night, and died on the 14th, at 8 A.M.

On a post-mortem examination there was no unusual appearance in the uterus; no internal hæmorrhage had occurred, neither was there any trace of inflammation. The heart was much thickened in its parietes, and the lungs showed considerable progress made by phthisis.

Forceps Case.

Feb. 11th, 1842.—I was sent for to see a patient in the lying-in ward, at 11 P.M. She had been in labour since the forenoon, and the pains for some hours had been strong and forcing. She was a large and apparently robust young woman, but had a small weak pulse. It was her first labour; and from the

intense straining the face and throat had swollen, and become emphysematous. The pains still continued very strong; the vertex was very low down, part of it beyond the vulva, but it had been in this position for more than three hours, without the slightest advance. On attempting to pass up the finger to feel the ear, it was quite impossible, and Mr. Harston, as well as the midwife, verified this. In fact, so fully was all the space occupied, that it was with some difficulty, and the greatest care, that I was able even to insinuate the second blade of the forceps between the head and the pelvis. On using traction, an obstruction was felt to be suddenly overcome, and the head then descended. The body was expelled by the natural action of the uterus. There was no pulsation of the cord, and all the usual means failed in restoring it. The patient had not felt any movements of the child for some hours before. It was very large, weighing more than 10lbs. Soon after its expulsion, the distance from the vertex to the ear was measured, and found to be nearly 4 inches. On the next morning I had the opportunity of shewing the body of this child to the obstetric class at University College, and even then the distance was $3\frac{1}{2}$ inches by measurement.

REPORTS OF CASES OCCURRING IN PRIVATE PRACTICE.

BY JOSEPH BELL, SURGEON.

(*For the London Medical Gazette.*)

[Concluded from p. 915.]

I HOLD that a knowledge of the pathology of fever is of the utmost importance to the proper and judicious treatment of the disease. If either gastro-enterite, or follicular lesion, be the origin of the symptoms of typhus, I think few will deny but that, if there be any possibility to cut short these affections, we would be enabled not only to remove the constitutional effects, but also, in many instances, to prevent such derangements taking place. Of course I am at present arguing on Dr. Corrigan's admission that local abdominal disease is the cause of fever; I would adopt a different course of reasoning if I were endeavouring to

prove the existence of such a cause. I merely wish to show at present the serious error into which the learned Doctor has fallen, when he affirms, that though we admit gastro-enterite to be the cause of fever, yet the existence of this local affection can be of no moment in directing our treatment. Now I would ask, if such disease of the mucous membrane of the stomach and intestines exist, is the administration of acrid medicines, such as emetics and purgatives, of no importance? or would the application of means calculated to remove the primary affection, and consequently moderate the general disturbance of the system, be of no moment? I admit that when the local disease has been allowed to run on unchecked, and has given rise, not only to serious functional disorder of the organs of the body, but has even effected structural changes in their tissues, we cannot then expect much good to result from the employment of measures for the removal of the origin of this complicated disorder, but must avail ourselves of every means in our power to subdue the general affection.

When, in the advanced stages of typhus, we find the pulse of a patient so rapid as not to be reckoned, his breathing hurried and laborious, his mental energies almost destroyed, his body covered with lived patches, and his bladder powerless,—in a word, when the vital powers are fast sinking, no sane person, however convinced of the primary existence of local abdominal disease, would for a moment think of applying leeches, or counter-irritation, to this part. In such a case, our efforts must be directed to relieve the dreadful state of derangement into which the powers and functions subservient to life have been brought; whilst, however, we would have care not to do anything that would be likely to aggravate any local lesion.

In fact, such cases of typhus fever must be treated on the very same principles as guide us in the treatment of collapse arising during the course of any other disease. I will conclude these remarks by quoting a few sentences from Dr. Bright, who is, without doubt, one of the most accurate observers of the present day. "Whatever," he observes, "may be the primary condition of the febrile attack, there can be no doubt that early in the

disease, not only in the season of which I have spoken, *but almost always, the intestinal canal is irritated, and that this irritation keeps up all the bad symptoms*, becomes the *chief object* to which the practitioner should turn his attention, and is not unfrequently at last the *immediate cause* of death."

"In some cases the symptoms of irritation in the bowels have followed very quickly after the first indications of fever, almost always before the patients have been admitted into the hospital, which is seldom within the first week, and frequently not within the first fortnight after the attack." By a reference to the tables, it will be perceived that the mortality, in fever cases, was in the ratio of 4·7 per cent; a rate of mortality, which though comparatively small, is yet larger than that which has occurred to others, by whom a very different plan of treatment was adopted*. M. Peidagnel, for instance, lost only three patients out of sixty cases which he allowed to run their own course. Dr. Corrigan states (MED. GAZ. vol. xxviii. p. 171) that "from July 1st, to Dec. 31st, 287 cases of maculated fever were admitted into the Hardwicke Fever Hospital of Dublin: of these only two died, which gives a rate of mortality of one death in 143½ cases." I firmly believe that the majority of fever patients will recover under the most opposite modes of treatment, nature being competent to effect the patient's recovery in many instances. It has been not unjustly observed, "that Nature is the best of physicians, though she has not got her degrees from a college."

In hospitals, the rate of mortality, I consider, should be below that which occurs in private practice. In fever institutions, the patients have the benefit of well ventilated apartments, are kept clean, and have the prescriptions of the medical officers properly administered, by qualified attendants. The case is very different with private patients, particularly in the lower classes of society. They are often confined in ill ventilated and damp apartments,—

lying among filth, and surrounded by want in every shape,—having no proper attendant to carry into effect the orders of the medical man. These circumstances, I am certain, are calculated to produce a much greater rate of mortality than would otherwise occur. I am quite convinced that such was the case in this place, during last winter and spring. The disease principally occurred among the lower class of the inhabitants, many of whom were subjected to the greatest destitution. Three of the deaths took place among patients of this character. One instance was that of a mother of four small children, three of whom were labouring under the disease at the same time—one an infant at the breast. These miserable creatures were huddled together in a recess in a garret, literally lying among straw, without even a covering to their skins, which were perfectly black with dirt; there was neither food nor fire in the apartment; the husband was out of employment, and was their only attendant. Another case was still worse. The mother of five children, and seven months pregnant, was seized with fever, along with her two eldest daughters, the one aged eleven, and the other nine years. They inhabited a damp cellar; their *beds*? were placed in dark close recesses in the wall. Not only were they destitute of bed clothes, but beneath their wretched pallets the floor was covered several inches with stagnant water. There was no person to take charge of them, the husband being obliged to attend his work in a coal mine. On the tenth day of the disease the woman gave birth to a dead-born child, and in a few hours expired. The pangs of labour and of death were simultaneous. The existence of the eldest girl was only protracted half an hour after her mother's departure. The bed on which she lay was actually a nest of filth, the stench being insupportable. Many such cases occurred, and are daily taking place here. The heart really sickens at the very contemplation of such scenes, and at the shameful indifference manifested at their occurrence. Dr. Alison has not exaggerated the state of the poor in Scotland; his descriptions often fall short of their actual condition. The scenes which he depicts are not confined to the large towns, but are to be met with in the

* It should be mentioned, that in none of the four fatal cases was local depletion used; partly in consequence of inability on the part of the patients to procure leeches, and partly from the advanced stage of the fever when I first saw them. In one of the cases I was permitted to inspect the body, and the appearances were most favourable to the views maintained in the text.

country villages throughout the whole of Scotland *. Something must be done to relieve the present state of the poor in this country; they are really in the most deplorable condition. I was very much surprised to find Dr. Chalmers, of Edinburgh, sending a pamphlet from the press lately, in order to show that Dr. Alison had misrepresented the state of the poor in Scotland, and that the parochial system of the country is perfectly adequate to meet their necessities. We often find that those individuals, however eminent they may be, when they become wedded to any system, cannot perceive in it the slightest blemish or defect. The parochial system of Scotland has certainly much to commend it; but I maintain that, in its present mode of working, it is totally incompetent to meet the exigencies of the poor. The following is the way in which parochial relief is given in this parish, and the mode of distribution is the same in other parts of Scotland. To entitle a pauper to parish relief he must have three years' residence in the parish. Some get only sixpence per week, others one shilling, and some one pound every thirteen weeks. In very few instances does the relief amount to more than this; and when it does, it is only to the extent of a few shillings. In sickness, or distress from want of employment, no assistance whatever is given even to parishioners; and there is not a single shilling given to the medical practitioners, either for their attendance, or medicine given to the poor! So that here there is not the slightest aid to be obtained from the parish funds, either by those who are parishioners, and who are in starvation from want of employment, or by those, no matter how urgent their distress may be, who have not resided three

years in the place. From the migratory character of the people employed at public works, comparatively few can claim the right of parishioners. Such is the parochial system at present in Scotland. I leave it with my readers to judge how any person can say that such a system is admirably adapted to meet every exigency of poverty or distress which can possibly occur. Dr. Chalmers, I should think, does not require to be told that there are parishes in the north of Scotland, where from three to five shillings per three months is the whole sum which paupers receive out of the parochial funds. This plain statement needs no comment. A man, unable to work from old age and infirmity, can only get one pound per annum, to pay house rent, feed, and clothe himself; and let it be understood, that such paupers frequently are prevented from begging, or if they should do so, the parish aid will be withdrawn. I knew an instance of a poor epileptic idiot, totally unable to work, whose small pittance of ten shillings per quarter was taken from her, because she was obliged to beg from door to door, in order to sustain existence. I trust, however, that the poor in this country will shortly be placed in a more comfortable condition; their situation at present is of the most lamentable description, and calls loudly for the interference of every person in whose bosom there exists the slightest feeling of benevolence or humanity.

Varicella.—Five cases of this affection were very severe. The patients were not vaccinated. Three of these patients died. I did not see any of them until they were beyond the power of medicine. In the other four cases, the disease was of a milder character: two of these patients had been vaccinated in early life, and had a good cicatrix on arm.

Spinal irritation, Neuralgia, and Hysteria.—It will be perceived from the tables, that these cases were very numerous. In the two former complaints, and in some instances in the latter, I found great benefit produced by counter-irritation to spine, some parts of which was generally found either tender, or painful on pressure being made over spinous or transverse processes of vertebræ, particularly the latter. Anodynes gave always temporary relief. Leeches and cupping ap-

* For the information of my southern readers I may state, that the village of Barrhead (regarding the state of which my own observations have a more particular reference,) is situated in the Parish of Neilston, Renfrewshire, seven miles west from Glasgow, and about four miles south from Paisley. The population of the village, according to the last census, amounts to 5337, that of the parish being 10,576. The inhabitants are chiefly operatives, engaged in cotton-spinning, calico-printing, bleaching, coal-mining, labouring, &c. They are frequently idle in consequence of the late depressed state of trade; and not being of very provident habits, they are subjected to great distress. I may also mention that there are six medical practitioners in the parish, all nearly equally employed, so that from this some idea may be formed of the relative amount of disease in this place.

plied on the tender part of the spine, acted, in a large majority of cases, like a charm; I have, however, found an eruption of tartar emetic, though not so speedy a means of relief, yet more permanent in its effects. Belladonna plasters sometimes seemed to be of use. It is a very difficult matter to say what treatment is best in such cases, as they frequently resist every mode of management, and very often get better without any treatment. In almost every instance of these affections, I have found the digestive organs deranged; the alvine dejections being morbid. By improving this condition of the stomach and bowels, the other complaints disappeared. I think it is a fair question for consideration, how far disordered states of the biliary and digestive organs act as originators of these nervous complaints.

Dysentery and diarrhæa.—These diseases were very prevalent and severe, particularly the former, which required the most energetic treatment. Much benefit was obtained, in many instances of both affections, from the application of leeches to abdomen and to anus. The two cases of dysentery which ended fatally, presented, on inspection, extensive marks of inflammation and ulceration of the mucous membrane of stomach and colon.

Delirium tremens.—Two cases of this occurred, and were remarkable for the large doses of opium which were required to be administered before sleep could be procured. One patient took two grains of the muriate of morphia every four hours for two days before he slept. In both these instances, as well as in several others of this complaint, I have experienced great benefit from leeching the epigaster: the effects of this treatment have often been very striking in the most unpromising cases*.

Malignant sore throat.—This case assumed a most alarming appearance: the patient, a boy aged seven years, was recovering from an attack of scarlatina; the eruption had disappeared before I was called to see him. The whole of left tonsil, and the greater part of velum pendul. palat. were completely destroyed by ulceration. There was a small ash-coloured spot on uvula, and deep ulcer (about the size of a sixpence), with ragged edges, on right

tonsil; tongue, inside of cheeks, and posterior wall of pharynx, were covered with aphthæ. The smell from mouth was of that disgusting phagedenic character, and was diffused through the apartment in which he was confined. The parts around ulcers in throat were of a dark livid hue; he was unable to swallow any solid food, and liquids were taken with great difficulty and pain; he was much emaciated, and, at the same time, was labouring under a severe attack of pertussis. Considerable hæmorrhage frequently took place from throat; on some occasions, the quantity amounted to upwards of three fluid ounces. The solid nitrate of silver was applied most freely once a day to fauces for the space of ten days, when the throat was healed.

The patient was ordered to get wine and nutritious aliments freely during the time of treatment.

Meningitis.—One of the cases was very interesting from the suddenness and severity of the attack, which ended fatally in 17 hours. I will not enter into any detail of the case at present, as I intend to send it shortly to the MEDICAL GAZETTE for publication.

Abscess of mamma.—These cases were successfully treated by compression, as recommended in the MEDICAL GAZETTE for Oct. 29, 1841.

Cynanche tonsillaris.—The Guaiac mixture*, was used in every case, except the fatal one, with the best effects. The fatal case was that of a child, æt. five months. When I was called to see him he was unable to breathe, in consequence of the enlarged state of the tonsils—indeed, he was fast sinking. As the last and only resource, laryngotomy was performed. Instant relief followed the operation: unfortunately the child's mother, during the night, removed the tube which had been inserted; upon which the child was again seized with symptoms of suffocation; and before my arrival at his abode, he had expired. This is the only fatal case of tonsillitis that I have observed.

Scabies.—In most of the cases of this troublesome affection of the skin, I used an ointment of Hydriod. Potass. (ʒj. of the Hydriod. to an ʒj. of lard). I have found it much more expeditious in curing the complaint than the sul-

* Vide MED. GAZ. vol. xxi. p. 897.

* Vide MED. Gaz., vol. xxvii., pp. 202, 516.

phuric ointment, the disagreeable smell of which is avoided.

Ulcers of the legs.—These were all successfully treated by the Bayntonian system. Many of the cases which had resisted various other modes of treatment, yielded readily to this simple plan.

ON THE CURE OF HYDROCELE.

BY D. HENRY WALNE, ESQ.

(*For the London Medical Gazette.*)

BETWEEN two and three years since my attention was directed to the use of iodine injections, substituted for those in common use in the treatment of hydrocele by some surgeons in India in the first instance, and subsequently by an eminent French surgeon; and some time prior to that period, I began also to make trial of acupuncture, then recently recommended by Mr. Lewis, for the radical cure of the same complaint; these being the only very modern changes introduced into its treatment, which, since the time of Sir James Earle, had been looked upon as scarcely admitting of any material improvement. Failures, indeed, did occasionally, though rarely, occur, when the operation he proposed and established was performed with that due attention to even minute matters which is necessary, in every operation, to insure success. Careless confidence much more frequently, and sometimes timidity in the operator, or great sensitiveness on the part of the patient, caused such a result. Doubtless, however, it was not always possible to estimate the patient's susceptibility of inflammatory action; and the prudent wish to excite no more than was necessary, might occasionally lead to less being induced than would suffice to accomplish the object intended. But, on the whole, the operation by injection of one or other of the stimulating fluids usually employed, as dilute wine, solutions of sulphate of zinc, and others, was a successful operation, and reasonably satisfied both the patient and the surgeon. One inconvenience followed its performance, besides the amount of pain experienced in the course of the inflammatory process. A short period of confinement had to be

submitted to; and it is surprising how often this necessity for confinement occasioned a disadvantageous postponement of the operation, especially by men engaged in business, or having families, to whom it must become known that they had been under surgical treatment for some ailment, the nature of which did not readily admit of explanation without a wound to the delicacy of more than one party.

It was with great satisfaction, therefore, that I, in common, of course, with other surgeons, hailed the introduction of any novel process by which the inconvenience of confinement could be got rid of; more particularly as the changes proposed served, at the same time, to diminish materially the amount of pain attendant upon, or consequent to, the established operative proceeding. I determined to make an early trial of acupuncture when I first read the flattering accounts of its success; and immediately on learning the all but uniform and happy results of the iodine injection in almost innumerable cases in India, and in a fair number for sanctioning its use in our own climate, by M. Velpeau, in France, I commenced its employment; and having from time to time, in the course of the last two years, mentioned the results of some of my cases at the meetings of the Hunterian Society, and finding that the subject has always appeared to excite interest in an assembly which includes no ordinary amount of well-informed professional men, I presume it may have sufficient to justify my occupying a few columns of the *MEDICAL GAZETTE* with a statement of my experience.

To give priority of consideration to that proposed operative improvement which first gained my attention, and was earliest announced—ACUPUNCTURE—I may report that, after a somewhat persevering trial of this, as a means of radically curing hydrocele, it has not inspired me with any considerable confidence in its efficacy. In only two instances has it appeared to me to give permanent relief to the complaint, if, indeed, I may report both these as such, of which I have some doubt.

One is that of a child about five years old, who had had the complaint at least two years, had been in vain treated with various lotions of a stimulating kind, and ointments rubbed upon

the part to produce absorption, such as sometimes succeed very well in children's cases, and after the repeated use of acupuncture for three or four weeks, went away apparently cured, the appearance of cure having been observed about two months. It is most probable this child would have been brought to me again if the cure had not proved permanent. In the operation on this child, I proceeded as I have done in several others. I introduced a curette through the skin of the scrotum into the tunica vaginalis, at first simply, but afterwards I turned its point towards the inner surface of the tunic, after it had penetrated this part more than three quarters of an inch, and scratched and pricked this surface in many places. I also punctured the scrotum, and employed the curette at five or six points in the same manner. Drops of clear colourless fluid rose on the skin of the scrotum where punctured, and even a little stream occasionally issued when I had pressed the instrument farther in, twirled it between my finger and thumb, and then withdrawn it, leaving a rounded slight puncture. In more than one instance, the fluid issued with a jet. A good quantity also got into the cellular texture of the scrotum, whence it was always speedily absorbed without any inconvenience having, in any instance, occurred. In the child's case, I must have operated five or six times.

My second case of success I consider to be quite as creditable to acupuncture, for it was one in which the injection of a solution of sulphate of zinc had failed; I think I may say, the only case of the kind which has ever occurred in my own practice.

An elderly gentleman applied to me in January 1839, having been the subject of hydrocele for at least twenty-five years. He called at the recommendation of a practitioner, who had repeatedly witnessed the results of operations I had performed, and had persuaded him to undergo the radical cure, as the tumefaction had, I believe, begun to annoy his patient's mind with groundless apprehensions of malignant disease. I tapped and injected, in the usual way, with a pretty strong solution of sulphate of zinc in distilled water; but as he became faint after complaining a good deal of the pain it produced,

I let it out rather more quickly than I usually do. The inflammation which ensued was moderate, but I hoped would prove sufficient. It was, I may remark, apparently quite equal to what seems to take place in successful cases of the use of iodine injections; but, perhaps owing to the state of the part, occasioned by disease of so long a continuance, did not produce the requisite changes in the tunica vaginalis, and a fresh accumulation of fluid took place. The patient was ready to undergo a second operation, but I determined to give a trial to acupuncture in his case, particularly as he was desirous of abridging as much as possible the inconvenience of confinement. It took several weeks to effect the relief which he ultimately obtained. Indeed I had prepared him for the failure of the acupuncture; for, although the tumor was greatly reduced, so much so that some time must elapse before he could be operated on with the trocar with that perfect safety from accident which a larger accumulation gives, I had named a time when I thought he might be again tapped and injected. He came, however, rather sooner, to show how much better he was, and called repeatedly for the same purpose, month after month, till at last several months had elapsed, and no fluid could be detected. This is about two years and a half since. I have lately seen him, and had the opportunity of examining his state. He is apparently quite cured. These are the only permanent cures I have been able to obtain from acupuncture in my own practice. Several cases of adults have been submitted for a time to its use, but with no other effect than temporary diminution of the volume of the tumor, and such an exhaustion of the patience of the party as to lead to the adoption of more speedy and effectual means.

My observation of this result has not been limited to the cases in which I have myself made the trial; but having noticed the frequency with which the patients of other surgeons had become dissatisfied with their progress, and had, in consequence, appealed to me for a more prompt and efficient remedy; and being able, since I adopted the injections of iodine, to hold out a reasonable hope of their escaping confinement, whilst gaining a cure, I have, perhaps, been induced to

desist sooner from the prosecution of a very doubtful practice. It is but fair to state this, at the same time observing that in a few examples this operation by acupuncture may prove an acquisition to surgery. It suits the timid, is a convenient mode of at least temporarily diminishing the bulk of very large hydroceles, and may, in such cases, sometimes effect a cure in a manner most in accordance with the feelings of the patient.

It is with a much less qualified approval that I am enabled to speak of the use of IODINE INJECTIONS for the cure of hydrocele. Excellent as is the method of curing this disease, generally adopted nearly ever since its introduction by Sir James Earle, that it might almost be deemed already perfect, unquestionably the suggestion of our Indian brethren has much contributed to its further improvement. Whatever kind of injection had hitherto been employed, occasional inconvenience or disappointment was experienced. The inconvenience of a short confinement to the recumbent posture had to be submitted to, as a matter of course, and if those injections, which seemed best to effect a radical cure, were used, the confinement was often extended to a period of a fortnight, or even three weeks, and was attended by a painful state of the part during some days. But slight, indeed, was the amount of annoyance, compared with what patients had endured under the methods of treatment which Earle's superseded.

On the other hand, if the milder injections were employed, as wine diluted, it was by no means uncommon for the operation to fail. This was much impressed on my mind at an early period of my surgical education, and the circumstance of a solution of sulphate of zinc being frequently adopted in the operations, which failure with the wine made necessary, struck me so forcibly, that from the commencement of my practice, for more than twenty years, I always resorted to such a solution in the first instance, feeling that the strength could be exactly regulated to the operator's wishes, and that it was best to use, at once, a remedy which so rarely fails. One instance only of its failing has occurred in my practice.

The treatment by iodine injections ap-

pears to me to be equally exempt from either of the inconveniences above pointed out. So mild a degree of inflammation is excited, that it is scarcely necessary to enjoin any restrictions but moderation in diet and in the exercise of walking; and yet so effectually is that change produced, which is essential to the perfecting a permanent cure, that no disappointment on that head appears to be experienced. The suffering, too, occasioned by the operation, is so slight as not to merit a moment's consideration. The cure is also effected very expeditiously. It so happens, that several cases, of which I could give the details, but a bare outline of them will be more suitable to the patience of the reader, and better adapted to the space to be occupied in the columns of the GAZETTE, have been examples of the failure of other means of cure, but have yielded readily and completely to the new kind of injection. Before proceeding to their relation, it may be as well to mention the few circumstances to be attended to in the employment of iodine as an injection.

Those parts of the instruments used which are metallic require to be guarded against the action of the iodine, by being carefully oiled before hand, and freed from what may remain upon them, by being dipped into a solution of potassa immediately after being used. If some care of this kind be not bestowed they will quickly be corroded and injured, the affinity of iodine for metallic substances being very strong, and its effect destructive.

But a small quantity of fluid is required, and the apparatus may be advantageously much reduced in size. As to the trocar, I have, with great comfort to myself and my patients, for many years used one of not more than a third of the size employed by some surgeons. From 6 to 12 drachms of the following injection, the ingredients being mixed just before the operation is performed, is a sufficient quantity, and it is not material, I think, whether warm or cold water be used, though I commonly have it warm.

R. Tr. Iodin. 3j. ad 3ij. ; Aquæ tepid.
3x. M.

When introduced, this should be moved about in the tunica vaginalis by gentle handling, and after from three to five minutes may be allowed

to escape. It produces some uneasiness at the time, but not enough to prevent a patient walking, perhaps a mile or more, immediately after the operation, with the part suspended. The effect will be shown by the following cases, to which more might easily be added:—

In the latter part of the summer of 1839, Mr. J. P., whom I had successfully treated for a fistula about a dozen years before, applied to me with a hydrocele, having already had acupuncture tried for its cure. The tumor was not tense, and he much wished to avoid confinement; I therefore gave the acupuncture a farther trial, using the curette in the manner described in the former part of this paper. His attendance was irregular, and the trial proved ineffectual. A short time having been allowed to elapse, to promote the accumulation, on the 22d of November I tapped it with a small trocar, drawing off about five ounces and a half of fluid. I then injected about an ounce of the following injection:—

R Tr. Iodin. ʒij.; Aquæ tepid. ʒx. M.

This caused him immediately a rather sharp “smarting” pain, extending along the spermatic cord, and continuing whilst the injection was retained. In about four minutes it was discharged: no care being taken to effect its complete escape. As, however, the waste scarcely exceeded a drachm, and some had trickled down the scrotum, very little could have remained in the tunica vaginalis. The injection returned quite clear. He now felt some aching of the testis, but was allowed to walk home, a mile at least, and directed to lie down if he should have much pain. He was to call on me next day, if equal to it; if not, I would visit him. He walked home. The uneasiness gradually subsided, but some little aching continued.

23d.—He walked to my house, and declared that, “except a little aching, he felt as well as ever he did.” The part was about a third of the size it was before the operation, and felt tender on being handled.

So slight a degree of inflammation was produced in this case, that during its progress my only fear was that adhesion might not be effected. A complete cure, however, was the result, accomplished with extremely little inconvenience to the patient.

Mr. L., aged 57. Feb. 11, 1840.—Hydrocele of the left side, which commenced in the preceding October without evident cause. Greater part of the tumor translucent. Testis somewhat enlarged. He had, previous to my seeing him, used leeches, medicines, and mercurials, camphorated and iodine ointments, without any good effect, but had left off all means, except a suspensory, for about three weeks.

Without any preparation, I tapped the hydrocele, and injected about an ounce of an injection of the same strength as in the last case, keeping it in four minutes. This gave some pain, and caused some little faintness. He stood to be operated on, and walked home afterwards without any support to the part.

12th.—Called on me, having walked with the part supported by a suspensory. Epididymis moderately swollen. Testis tender. Some aching of the cord. Had taken, by my desire, a dose of opening medicine, which had operated well. Did not feel ill in any way.

14th.—Aching less; skin a little red over the testis; swelling stationary; considerable tenderness. I directed the constant application of a lotion of Liq. Ammon. Acet., Spir. Rectif., et Mist. Camph.; and prescribed a rather active dose of aperient medicine, which he took daily some few times. The case went on very well. For about a fortnight Mr. L. refrained from taking very long walks, which his engagements usually required, but attended to any sedentary business he liked, and most days walked more than a mile.

The enlargement of the testis was removed in a short time by means which need not be detailed. I may here remark, that it is quite a mistake in practice to omit the radical cure of hydrocele because the testis is enlarged. The weight dragging upon the cord, when any quantity, even a few ounces, of fluid is contained in the tunica vaginalis, materially increases that slight irritation or chronic inflammation which occasions enlargement of the gland.

Mr. J. W., aged 38. Aug. 15, 1840.—About four years since first perceived enlargement of the right side of the scrotum, which increasing, he applied to a surgeon, who punctured it with a lancet, discharging about a quarter of a pint of fluid. Mercury was given, but confinement being inconvenient, no

other local means than the application of a lotion to the scrotum were then employed; but in six months about three ounces of fluid were discharged in the same manner. All applications were now omitted by the patient, and in about eight months a second surgeon tapped the tumor with a trocar, drawing off about four ounces; and after a much shorter interval the same thing was repeated: the fear of confinement still inducing the postponement of the radical cure. The tumor is flaccid, and fluctuation very palpable. With a small trocar, causing, as he observed, "nothing like the pain of either of the former operations," I drew off four ounces and a half of fluid, and then threw into the tunica vaginalis not more than an ounce of the injection of the same strength as in the last two cases, but cold. It was kept in only two minutes, and caused smartish pain, attended very soon with aching in the loins, up the cord, and in the lower part of the belly; also down the right leg to the knee, "the cap of which was remarkably uneasy." He soon became easier, and walked part of his way home, but took a conveyance from the first coach-stand for the rest of the distance. In the course of the day kept quiet, and lay down for nearly four hours. A dose of active medicine had been prescribed.

16th.—Walked to my house, more than a mile. Had used no application, and taken no medicine. Swelling nearly as great as before the operation, very tender, and somewhat red. Ordered a smart purgative of jalap and calomel, and a lotion of *Liq. Plumb. Acet. Dil. et Spir. Rectif.*

These remedies, acting very promptly and efficiently, afforded him great relief.

18th.—Swelling much reduced, and the tenderness so much removed, that he walked very comfortably to my house. There is still a little uneasiness in the loins. That in the knee, which was slightly felt till yesterday morning, is now gone.

Sulph. Magn. ʒss. daily.

The swelling steadily subsided, and the tenderness on handling had ceased by the 24th. He continued to attend to business, except for a very few hours, during the progress of the cure; and may ascribe part of the tenderness he

allowed to arise to the omission of the purgative I had advised on the morning of the operation.

The brother of the above patient, Mr. H. W., aged 29, applied to me Dec. 7, 1840, having had a swelling of the scrotum about a year and seven months. On applying to a surgeon, a worsted thread was passed through the skin, and kept in three days, and the swelling diminished in consequence, and became softer. It has again increased in size. On examination the tumor has the transparency and other characters of hydrocele. I drew off about six ounces of serum, and injected the following:—

R Tr. Iodin. ʒj. ; Aquæ tepid. ʒvij. M.

This was retained from three to four minutes, and caused some aching. He walked a quarter of a mile, and rode the rest of the way home, and lay down and slept for an hour. After this he was "about" principally on foot, nearly all the day.

8th.—Fearing to be too late to see me, he had walked hastily to my house. There is some tenderness of the testis, and some soft swelling, and evidently fluid in the tunica vaginalis, sufficient indeed to exhibit translucency to a small extent. The epididymis is, however, swollen and tender.

Fearing that the inflammation might prove insufficient, I rubbed the surfaces of the tunic on each other, and freely handled the part, so as to renew the aching. I also ordered the following stimulating lotion to be applied to the scrotum:—

R Ammon. Muriat. ʒij. ; Liq. Am. Subcarb. ʒij. ; Spir. Camph. ʒss. ; Aquæ Dest. ʒvij. M.

An aperient was occasionally ordered.

9th.—Epididymis more swollen, and the scrotum redder than natural. No translucency observable. Certainly less fluid in the tunic, but more of solid tumefaction. Tenderness very slight. "Kept about all yesterday."

10th.—Swelling and tenderness less.

22d.—Has attended twice a week. The swelling has been gradually subsiding, but there is still a little enlargement of the testis, as there was found to be when the fluid was discharged. No pain or inconvenience has been felt, and he has constantly attended to business as usual.

30th.—Swelling almost entirely gone.

Jan. 11, 1841.—Having had some little fear that this case might perhaps not prove a perfect cure, I was glad to find to-day no vestige of fluid; the testis of its natural size; the epididymis only slightly relaxed, and the cure complete. I never before saw the radical cure effected with so much freedom from discomfort in the course of its completion.

Here I believe it will be well to desist from the narration of cases, which with every desire to abridge them as much as is consistent with a bare statement of each, are apt to extend a communication beyond reasonable limits. Suffice it to observe, that those selected are not taken as particularly favourable examples. With reference to the strength of the injection, this should be varied according to the sensibility and age of the patient, as well as the duration of the disease.

Guilford Street, Russell Square,
February 1, 1842.

REMARKS ON THE USE OF FRICTION IN AFFECTIONS OF THE SPINAL COLUMN.

To the Editor of the Medical Gazette.

SIR,

IF the following remarks be deemed of sufficient importance, I shall feel obliged by their insertion in the pages of your very valuable journal.

I am, sir,

Your obedient servant,

GEORGE SAWYER,
M.R.C.S.L.

72, Myddelton Square, Pentonville,
Feb. 23, 1842.

Having had, for some years, my attention drawn to the various uses of friction, as a general remedy in weakness and other affections of the spinal column, and having also witnessed its beneficial effects in common with most medical men, as an auxiliary in rheumatism, and other muscular and spasmodic affections, as hooping-cough, &c. &c.; and as it appears to me that its merits have not been sufficiently appreciated, I have been induced to bring the subject under the notice of my medical brethren, and to court inquiry, not only generally, which I think it is worthy of, but more particularly in a new character—that of a medium for administering medicine by the ab-

sorbents of the skin on its smooth surface.

Knowing the power of the absorbent system, and the difficulty of getting children to take medicine, I resolved to make the attempt in the case of my own little boy, then between six and seven years of age, who was suffering from mucous irritation of the bronchi, bowels, &c., with sympathetic cough, and great consequent debility, with a slight curvature of the middle dorsal vertebræ, as sequelæ to a smart attack of scarlatina.

I rubbed the spinal column and muscles of the back every night from a quarter to half an hour, and the abdomen, chest, and armpits, for a shorter period, with an ointment composed of hydrarg. c. creta gr. x.—adipis pptæ. ʒij.; and in the morning with sulph. quin. gr. x., adipis pptæ. ʒij. In a week he lost his cough; his appetite, which had been much impaired, returned; and by continuing the alterative until the secretions were healthy, and the quinine ointment for about six weeks, he was restored to perfect health, and the curvature had quite disappeared.

I have thought it well to relate this plan, not only on account of its novelty, and the difficulty we frequently meet with in giving medicine to children with satisfaction, but also to another class of patients it may prove beneficial, I mean to those who have naturally weak stomachs, or where there is so much irritability of the nervous system, as to reject all internal remedies; and those, also, who suffer from peculiar idiosyncrasies. In addition to which, we have all the benefits resulting from friction, which has proved, in debility of the system generally, and in cases of dyspepsia (from sluggishness of the thoracic duct, which is much oftener affected than we imagine), a most invaluable remedy from its invigorating properties.

These remarks I offer with the hope of giving my meed of aid in restoring the very useful and much neglected therapeutic agent, friction, to the respectable rank that it should possess; that its cause may become espoused by some of the heads of the faculty; and that its advantages and effects, some of which I have ventured to allude to, may not only be manifested but acknowledged.

FORMULA FOR THE INFUSION OF
CHIRAYTA.

To the Editor of the Medical Gazette.

SIR,

HAVING been for many years in the daily habit of employing chirayta, with great satisfaction, I beg leave to communicate my formula for the infusion of that herb; and this I am induced to do from observing in your number for February the 11th a formula so very different in strength from that which I make use of.

Infusum Chiraytæ. ℞ Herbæ Chiraytæ, ʒss. ; Aquæ ferventis ʒxvj. Macera per horas duas et cola.

This I find sufficiently strong, and it is a very valuable simple bitter: I prefer it to any we have in our pharmacopœia. Its efficacy in a case of chronic bronchitis in an aged person whom I attended a few months ago was very decided: he rapidly recovered under its use, though this was a very severe case: the expectoration was very great, and the powers of the system very low. How it may act when given in the strength of half an ounce to the pint, I do not know, nor do I intend to try. In the form I have given it, it acts very kindly, and has realized its pretensions.

There is one circumstance worth notice, which is, that this infusion will keep for a considerable time without undergoing any sensible change. It has kept good for six months during the summer months in a green-stoppered bottle. I have no remarks to make on the formula given in your journal for the tincture that is about the strength of mine, but I will give you what I believe to be pretty near the formula for the tinctura chiraytæ, as formerly sold by Reece and Co., Piccadilly.

Tinctura Chiraytæ. ℞ Herbæ Chiraytæ, ʒij. ; Sassafras Concisæ, ʒiij. ; Pterocarpi Concisi, ʒij. ; Spiritus Tenuioris, fʒxxiv. Macera per dies quatuordecim et cola.

This I have kept and employed for several years.—I am, sir,

Your obedient servant,

JOSEPH HOULTON.

Lisson Grove, February 23d, 1842.

MEDICAL GAZETTE.

Friday, March 11, 1842.

“Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso.”

CICERO.

MEDICAL REFORM.

IN a late number of our journal we gave our readers a sketch of the measure proposed to be brought before Parliament by Sir James Graham, for the better regulation of the medical profession; and although we did not pledge ourselves to the accuracy of the details, we believed, and still believe, that what we then reported was not very far from the truth; still, as subsequent inquiry has led us to think that some alterations have been made, and others suggested to the Home Secretary, from various quarters, we deem it better to say nothing more at present relative to this projected reform as a *whole measure*, but to make a few observations upon one of the proposed clauses of the forthcoming bill, respecting which we are led to believe Sir James Graham has made up his mind.

Now, although we do not purpose, as we before said, to enter fully into the merits of a measure still in embryo, yet having heard so much of it, we may perhaps be permitted to say that we much doubt the result of an engrafting of some of the liberal notions we find here upon a conservative stock, fearing that the fruit so produced will neither be palatable to the taste nor wholesome to the constitution;—to drop all metaphor, we more than doubt the soundness of some of the principles upon which this reform of the profession is founded.

Let us look a little closer at the claims and grievances set forth by the various sections of petitioners upon this fertile, but now nearly thread-bare subject, all united in one common demand for some change in the laws regulating the medical profession. What do we find? A

small section clamouring against the exclusive privileges of the College of Physicians; and another and a much larger portion exclaiming on various grounds against the other chartered bodies.

Again, we find the northern practitioners raising the cry of monopoly against their southern brethren; and a numerous class urging their right to elect their governing bodies. But exclusive of all these various causes of discontent, we find the whole body of general practitioners throughout the country, with one common voice, calling out upon the legislature to protect them against the intrusion of ignorant and unqualified persons; and what reply does Sir James Graham's proposed bill give to this most important and reasonable demand? It tells them that *discouragement* to illegal practice is all that the circumstances of their case requires—that none but a licensed practitioner shall be admitted into either branch of the public service, to any parish office, or to any public charitable institution;* but, as far as the Government is concerned, *that* is the whole amount of protection which can be afforded to the general practitioner. It thus appears that if any man, Sir James Graham's footman, for example, chooses to establish himself as a general practitioner, so long as he abstains from seeking any public appointment, he may destroy as many of her Majesty's liege subjects as he thinks proper, the said lieges being bound to know whether he is a properly educated man or not: in other words, every man must carefully examine the register of licensed practitioners, and must inquire into his previous history and qualifications, before he can send for a medical adviser. In short the public must protect their own lives, for the law leaves them at the mercy of the quack and the pre-

tender: no positive check to mal-practice is to be held out, but a negative one in the way of discouragement is supposed, in this case, to be sufficient protection to the public, who are not allowed to be judges of those who are qualified in any other profession, the law having settled that point in the cases of the solicitor and the barrister, and many others that will readily occur to the reader's mind. And this is a state of things that, it is presumed, will be satisfactory to the 10,000 gentlemen who have been compelled to expend hundreds of pounds in obtaining a competent knowledge of their profession, and who have been subsequently required to undergo a rigid examination as to their competency to practise!

Everybody seems to admit that the exclusion of unqualified persons from the public service, or from parish medical appointments, is both judicious and necessary (although the Poor Law Commissioners have thought fit to put this salutary regulation aside in some cases); but if it be right that the soldier and the sailor, the pauper in the workhouse, and the labouring man in the hospital, should have the benefit of an educated and examined practitioner, how can it be maintained that those classes a little elevated above pauperism should be left to the allurements of a green and blue bottle, the commonly acknowledged signs of what is usually called a *doctor's shop*? in fact, to be made a prey, both in pocket and health, by any greedy adventurer who finds every other path of imposition, if not absolutely closed, at least obstructed by some legal guard. It is urged that the middling and lower classes will be readily able to discriminate between the educated and uneducated, the licensed and unlicensed practitioner: but what proof have we of this? Do the higher orders, as they are called, evince any such discrimination? Is there any new

* See the letter of "A General Practitioner," page 960.

scheme started, be it hydropathy or homœopathy, or any other wild and improbable doctrine, that it is not instantly sought out and patronized by those who assume to themselves superior knowledge and sagacity: and yet it is intended to leave the poorer, more ignorant, and therefore the more helpless, classes of the community to the tender mercies of sordid and ignorant men, who, with empty impudence, and the most unblushing assurance, take the place of the regular practitioner.

But, again, it is urged that penal enactments have done nothing towards suppressing illegal practice; and some free-trade advocates go so far as to say that the people have a right to destroy themselves if they choose, and any restrictions as to their selection of a medical attendant are both unjust and arbitrary, as well as useless. Neither of these arguments, however, are worth anything; for, in the first place, it can never be ascertained in what degree a penal enactment does suppress or restrain illegal practice, even under the present most onerous and objectionable mode of conducting the prosecution; and as to the other plea, surely the life of the subject is of at least as much importance as his property, and we never yet have heard that it has been proposed to leave fraud and theft without annexing some penalty to their commission, though it is quite certain that neither of these crimes can be wholly eradicated as long as human nature continues unchanged.

It is curious that our modern politicians should have thus suddenly imbibed a horror of penal restraints in the instance of the medical profession in this country, when, in every Colonial Act passed within the last few years for the regulation of the profession, such an enactment has always been considered necessary: we allude particularly to

the local Acts for Van Diemen's Land, the Mauritius, and Jamaica. If, indeed, it could be said that the present advanced state of medical education contracted the supply of professional men, and rendered them so scarce that it was absolutely requisite to let in a body of irregulars—if it could be said that it had decreased the estimation of the general practitioner, or lowered his social position—it might then indeed be a matter of more than indifference whether he were protected or not: but the reverse of all this is the case. We fear, however,—nay, we more than fear—that in some quarters the increased attainments of the general practitioner have been looked upon with feelings any thing but kindly: it has been more than hinted that the apothecary must be pushed back from the dignified position which, by dint of hard labour and virtuous exertion, he has just attained, in the expectation that when that light is dimmed or extinguished others may shine more brightly. If this affected the general practitioner only it might be of little comparative importance; but it affects the public as well as the whole profession. The forward movement in education began, as has been honestly stated by one of the latest and most able writers on this subject, from the lowest grade of the profession; it impelled, and still continues to impel, the other Bodies to continued exertion, in order to maintain their more elevated position, and we are convinced that the general practitioner cannot be degraded without damaging the reputation and influence of the profession at large.

We do not pretend to the gift of prophecy; indeed it needs no such power to be able to foretel the fate of a measure containing a clause of *discouragement* only. The general practitioners, when they come to know that the whole mass

of persons now assuming to practise medicine without education or license, are, by this measure, to be confirmed in their usurpation, will rise up as one man to oppose it.

POOR-LAW BILL.

To the Editor of the Medical Gazette.

SIR,

As the time is approaching when medical affairs will obtain something like a hearing in the High Court of Parliament, from the introduction of Sir James Graham's Bill for their better regulation, and as the renewal of the Poor-Law Bill offers a good opportunity for doing away with some, at least, of the many evils the profession now labours under, I beg to offer, through the medium of your excellent publication, a few suggestions which appear to me of importance; and though, perhaps, not entirely original, yet, in some of their details, differing from the plans hitherto laid down. The Poor-Law authorities consist, as you well know, of Commissioners, Assistant-Commissioners, and Guardians—the two first appointed by Government, and the latter body composed of the county magistrates resident in the Union, who are, *ex officio*, members of the Board; and of others elected annually by the rate-payers of the different parishes, in a number proportionate to their size and importance.

The choice of medical officers rests with the Guardians; and as this has to be renewed annually, great room is given for favouritism and pique; and it has often happened that the services of efficient men have been lost to the Board by the election of others over their heads, whose sole recommendation has been cheapness, or an acquaintance with the majority of the Board.

The evil tendency of this is manifest: it serves to excite, and to make excuse for, non-professional behaviour; and it takes away from the medical officer a great stimulus to his duty, inasmuch as he knows not how soon he may lose his appointment.

The Guardians, too, cannot know how to judge either of the qualifications, or of the manner in which a medical officer performs his duty; and a mutual check is wanted.

I would therefore propose—

That a Medical Commissioner, who has practised as a general practitioner at some time of his life, shall be appointed by Government.

That Assistant-Commissioners, *bonâ fide* general practitioners, and at the time of appointment of not less than ten years' standing, shall be appointed in the same

manner, and that the holding of office shall render them ineligible to practise in any way.

That the duty of the Commissioner shall relate entirely to medical matters, medical reports, statistics, &c.—and that he shall have no voice on any subject non-medical.

That the duties of the Assistant-Commissioners shall be—

To examine into the size, population, position, convenience as to medical attendance, and other particulars relating to the different medical districts of the several Unions in his division, and report the same from time to time to the Board. To visit at short intervals the workhouses of the Unions in his division.

Examining into their state, and reporting upon the same; inspecting the medical officers' books, making abstracts from them, and conferring with them personally as to the state of health, &c. of their districts. To be present at all inquiries relating to neglect or mal treatment of patients; and at all investigations into the causes of disease arising from mismanagement, bad arrangement, or neglect, in any workhouse or parochial infirmary.

To be present at all elections of medical officers; to assist and advise the Guardians, from the testimonials of the candidates; but not to vote.

To report to the Board in London any alteration in the emoluments of a district, rendered necessary from changes in the population, or other causes.

To act as superintendent-registrar for the division under his care.

To report all nuisances brought under his notice by proper authorities, which he may deem prejudicial to the health of the inhabitants of the same.

These, and other duties to be after named, would be efficiently done only by medical men, and those of experience too; and as the present Assistant-Commissioners, now that the clerks to the Boards of Guardians are so well versed in their business, are notoriously of little use, and quite incompetent to judge of the points here laid down, it should in the new bill be so provided that their places may, from time to time, be filled up by medical men; and as these would also be superintendent registrars and custodiers of public safety, as far as nuisances are a matter of medical police, it is manifest that a saving, instead of an extra expense, would accrue to the rate-payers, in a pecuniary point of view—to say nothing of other advantages.

I believe considerable alteration is contemplated by the present Commissioners in the amount of salary, &c. to medical officers; and as soon as this *verata questio* is arranged, it would be much better, for obvious reasons, that they should be appointed as the chaplains, clerks, and other officers, are,

during good behaviour, and not to be removed, except by an investigation and proof of misconduct, to be reported by the Assistant-commissioner, to the Board in London.

I am anxious that the present time should not slip by, and have suffered so much from the evils of the system, that I cannot longer remain a passive victim, and hope this imperfect attempt to bring the matter before the profession will excite some more powerful pen to take up the cause.—I am, sir,

Your obedient servant,
M.R.C.S.L.

Feb. 21, 1842.

MEDICAL TOPOGRAPHY OF LA PLATA.

WE are indebted for the following account to a review in the *Gazette des Hôpitaux*, of a pamphlet by M. Adolphus Brunel, surgeon-major to the corvette *La Perle*. It is entitled "Topographical, meteorological, and medical observations made in Rio de la Plata, during the blockade of Buenos Ayres."

The Rio de la Plata is a great mass of water lying between the 34th and 36th degree of south latitude, which after having received the Parana, the Paraguay, and the Rio-Salado, falls into the Atlantic. Two considerable towns, Buenos Ayres and Monte Video, the capitals of the Argentine and the Eastern Republics, are situated, one on its right, and the other on its left bank. Its shores are pleasantly situated, with a temperate climate, and a very fertile soil. The spring begins in September, the summer in December, and the autumn in March. During the author's stay, the greatest cold was $4 + 0$ of Reaumur, $= 41^{\circ}$ of Fahr.; and the greatest heat 24° R. $= 86^{\circ}$ F. The most frequent winds are from the N., the N.E., and the S.E.; they blow with violence, often change, and produce sudden and frequent alterations in the temperature and hygrometric state of the atmosphere.

The people who inhabit these countries may be divided into four principal classes.

First, the Creoles, sprung from the conquerors, to whom may be added all the Europeans and North Americans. Secondly, the Negroes imported from the coast of Africa. Thirdly, the half-castes, formed by the intermixture of Europeans, natives, and negroes. Fourthly, the natives, who may be divided into two classes; those, namely, who have become civilized, and those who, resisting every attempt of the Spaniards to subjugate them, have preserved their independence.

The Indians in the savage state inhabit the Pampas, and the deserts of the great Chaco; and they are divided into tribes of eighty or a hundred families, governed by a chief, who is generally elected. Since the

importation of cattle, and particularly of horses, into America, these tribes are no longer cannibals. These Indians are below the middle stature; their head is large, their nose short and flat, and their cheek-bones prominent. The projection of the chin is wide, and the chin itself is the only part of the face that has hair; their lips are thin, and their mouth furnished with splendid teeth, which are admirably regular, and remain uninjured to an advanced age. Their chest is broad and prominent, and their limbs well turned; their hands and feet small; their complexion of a pale copper colour; their long black hair meets at the top of the head, and they sometimes let it hang down; their hearing is very fine, and their sight piercing; their constitution is robust, they are bold riders, and never go but on horseback. They are distrustful, thievish, greedy, and cruel; drunkenness is their ruling passion; they are naturally lazy, and oppress their women with work. Their chief nourishment consists of horse-flesh, which they eat almost raw, and when it has reached a certain degree of putrefaction; at other times they dry the meat, and reduce it to a powder, mix it with plenty of salt, and make it into a paste. They use maize as food, and also make a fermented drink from it. The coagulated blood of a colt, kneaded with maize flour and salt, is one of their tit-bits. At present, the incursions of these savages into the different provinces of La Plata are less frequent than formerly; yet from time to time they plunder the farms and carry off the cattle. They make war with ferocity, massacring the men, and sparing only the women, and sometimes the children.

This part of America is exempt from the morbid scourges which devastate other countries. The plague of the East, the yellow fever of the Antilles, the cholera, typhus, and intermittent fevers, are not seen there. Among common diseases are catarrhs, sore throats, croup, hooping-cough, pleurisy, and pneumonia, all connected with the rapid variations of temperature. Phthisis is also very destructive there. Diseases of the skin are very frequent; small-pox, measles, and scarlatina, are dominant epidemics. Caries of the teeth is endemic, and appears very early; girls, in particular, of sixteen or seventeen, have none but decayed teeth. The ravages of small-pox are frightful, especially among the native savages, whole tribes of whom it has often destroyed. The slightest wound, and frequently the mere transition from heat to cold, is sufficient to produce immediate tetanus. The negroes and Europeans are more usually attacked by it than natives. The *gauchos*, or half-caste shepherds, often succeed in treating this terrific disease by wrapping the patient in a

sheep-skin recently flayed. Hepatitis and dysentery are common in the towns, and syphilitic diseases in the country. Goitre is endemic; and the negroes are subject to tubercular lepra.

ENCOURAGEMENT OF NON-LICENSED PRACTITIONERS.

To the Editor of the Medical Gazette.

“By not permitting those who practise without a license or diploma to recover their expenses in the courts of law, and by forbidding them to be elected to any medical service in a public or charitable institution.”

MEDICAL GAZETTE, Feb. 18, 1842.

SIR,

These are the words you used in describing Sir James Graham's bill for Medical Reform, and of course you would suppose that a government, which would bring in such a bill, would not openly encourage non-licensed practitioners. The facts of the case I shall briefly state: there are about twenty general practitioners in this town, all (with the exception of two or three) being members of the College and Hall. The situation of “surgeon and agent at sick quarters for the navy” (a situation in which a person acts both as a surgeon and apothecary) being vacant, it was last week bestowed upon one of these persons, who for the last eight years has been practising as a general practitioner in spite of the law, and now as an officer under government; continuing a private practice as an apothecary without the license from the Hall. If this is the kind of discouragement to be given to non-legal men by the new bill, I for one would rather remain under the old one.

I am, sir,

Your obedient servant,

A GENERAL PRACTITIONER.

Yarmouth, March 1, 1842.

[The name of the writer is given.—ED. GAZ.]

ATMOSPHERIC PRESSURE ON THE BRAIN.

To the Editor of the Medical Gazette.

SIR,

I WOULD beg to direct the attention of Dr. Haworth, of Bolton, to the experiments of Dr. Kellie, of Leith. I think that Dr. H. will find the results of these experiments to be completely opposed to the views which he has advanced (in your journal of the 25th ult.) regarding the effects of atmospheric pressure on the brain, and also the effects of concussion in emptying the blood-vessels of that organ.—I am, sir,

Yours obediently,

JOSEPH BELL.

Barrhead, March 3, 1842.

ROYAL COLLEGE OF SURGEONS.

LIST OF GENTLEMEN ADMITTED MEMBERS.

Friday, March 4, 1842.

C. Ingram.—J. C. Barrett.—W. G. Watt.—B. F. Frankis.—J. M'Namara.—W. Carson.—T. W. Ransom.—H. Day.—J. B. Buchanan.—J. Deighton.—F. H. Kelson.—D. N. Tucker.—C. O. Gilby.

A TABLE OF MORTALITY FOR THE METROPOLIS,

Shewing the number of deaths from all causes registered in the week ending Saturday, Feb. 26, 1842.

Small Pox	5
Measles	26
Scarlatina	11
Hooping Cough	46
Croup	14
Thrush	4
Diarrhoea	6
Dysentery	1
Cholera	0
Influenza	4
Typhus	17
Erysipelas	3
Syphilis	1
Hydrophobia	0
Diseases of the Brain, Nerves, and Senses ..	138
Diseases of the Lungs, and other Organs of Respiration	327
Diseases of the Heart and Blood-vessels	20
Diseases of the Stomach, Liver, and other Organs of Digestion	71
Diseases of the Kidneys, &c.	4
Childbed	7
Ovarian Dropsy	1
Disease of Uterus, &c.	4
Rheumatism	3
Diseases of Joints, &c.	6
Ulcer	0
Fistula	1
Diseases of Skin, &c.	1
Diseases of Uncertain Seat	132
Old Age or Natural Decay	64
Deaths by Violence, Privation, or Intemperance	21
Causes not specified	4

Deaths from all Causes

942

METEOROLOGICAL JOURNAL.

Kept at EDMONTON, Latitude 51° 37' 32" N.

Longitude 0° 3' 51" W. of Greenwich.

March	THERMOMETER.	BAROMETER.
Wednesday 2	from 30 to 49	29.68 to 29.53
Thursday . 3	46 53	29.75 29.81
Friday . . . 4	36 48	29.89 29.85
Saturday . 5	30 49	29.88 29.96
Sunday . . 6	24 47	29.90 29.77
Monday . . 7	26 49	29.65 29.55
Tuesday . 8	44 53	29.44 29.41

Prevailing wind, S.W.

On the 2d, overcast, raining nearly all the day. The 3d, morning cloudy, wind boisterous, otherwise clear. The 4th, cloudy, sunshine at times. The 5th, and following day clear. The 7th, noon clear, otherwise cloudy; a shower of rain in the evening. The 8th, morning overcast, with heavy rain, otherwise generally clear.

Rain fallen, .64 of an inch.

ERRATA.—Page 877, col. 1, for “interior condyle,” read “internal condyle;” col. 2, line 19, for “sound,” read “severed;” line 43, read, “the bone resting on the lower third of the opposite thigh.”

WILSON & OGILVY, 57, Skinner Street, London.

THE LONDON MEDICAL GAZETTE,

BEING A
WEEKLY JOURNAL

OF

Medicine and the Collateral Sciences.

FRIDAY, MARCH 18, 1842.

LECTURES
ON THE
PRINCIPLES AND PRACTICE OF
PHYSIC,

Delivered at King's College, London,

BY DR. WATSON.

Hæmorrhage from the stomach; sometimes from a large vessel, usually by exhalation. Idiopathic hæmatemesis. Vicarious hæmatemesis: hæmatemesis from gastric disease or injury: from disease in other organs. Melæna. Hæmatemesis from a morbid state of the blood. General phenomena of hæmatemesis. Diagnosis. Treatment.

HÆMORRHAGE from the stomach, to which I wish next to direct your attention, is of much more frequent occurrence than acute gastritis. It is a complaint, or a symptom, that presents several points of interest and importance. I use the phrase "hæmorrhage from the stomach," rather than the single term "hæmatemesis," because that term, signifying strictly a *vomiting* of blood, does not necessarily imply hæmorrhage *from the stomach*; nor, indeed, does it always accompany such hæmorrhage, although it is one of its most common and most striking symptoms.

What I have so frequently mentioned in respect to hæmorrhages from the mucous membranes generally, viz., that the efflux of the blood is seldom owing to the rupture of a large blood-vessel, holds true in this. It can rarely happen that any vein or artery belonging to the stomach is divided or laid open by accidental injury, so as to pour out its blood. When hæmorrhage does proceed from one or more of the larger blood vessels, the opening by which the blood escapes is commonly the result of chronic ulceration; such as I spoke of yesterday. I have not,

myself, met with an instance of that kind. Andral states, that, at most, there are but five or six such cases to be found in the records of medicine. Since his work on *Pathological Anatomy* was published, another example of the same lesion has been detailed in the *Journal Hebdomadaire* for May, 1830. I shew you a drawing after Dr. Carswell, representing an ulcer which laid open the coronary artery of the stomach, and caused fatal hæmorrhage. In these cases, we have, first, the symptoms of chronic gastritis; next, faintness, or actual syncope, from the sudden abstraction of a large quantity of the vital fluid; and lastly, the visible eruption of the blood itself: for vomiting seldom occurs until a large quantity of blood has accumulated in the stomach.

As this variety of gastric hæmorrhage is rare, I will briefly relate an instance of it, which occurred in the year 1831, at St. Bartholomew's Hospital. The patient was under the care of Dr. Latham, who was good enough, some time ago, to give me the following history. The subject of it was a man, 38 years old. He was admitted on the 19th January. His countenance was dusky, but exsanguine; his pulse 100, and weak; his tongue pale, and slightly furred. He made no complaint of pain anywhere.

He had been ailing for two years; had suffered much pain across the epigastric region; and had frequently vomited his meals. Two days before, he had been suddenly attacked with faintness and giddiness, and then vomited about two quarts of blood. He was an habitual spirit drinker.

In the afternoon of the day on which he entered the hospital, he was again seized with giddiness; and fell into a state of syncope, in which he remained for several minutes. Upon recovering, he vomited a large quantity of blood, not less than three pints. The next morning, early, he brought up a like quantity, under similar circumstances; and he passed three evacuations from the bowels, all of them *black*. He was

gradually sinking during the whole of that day, the 20th. Towards the evening, he vomited about half a pint more blood. He died quietly the next morning.

When the abdomen was laid open, the stomach was seen to be distended. The intestines had, in several places, a black appearance; from the colour of their contents. The stomach contained about two pints of coagula, and of a dirty red liquid. At the upper part of its lesser arch was a small excavated ulcer, with hardened edges. In the centre of this ulcer there were visible the orifices of three or four arteries, filled with minute clots of blood.

It would seem as if gastric hæmorrhage, having this origin, were capable of being staunched by some natural process; and as if the injury done to the stomach were susceptible of repair. Andral describes a curious case, in which an open blood-vessel was found in an ulcer of the stomach; but no hæmorrhage had occurred. That mere ulcers in the stomach may heal, there can be no doubt: two or three scars of healed ulcers are represented in Dr. Carswell's drawing. The patient whose case is related in the *Journal Hebdomadaire* had vomited considerable quantities of blood for eight days in succession, five years previously to the attack which terminated his life. So that hematemesi from this cause is not absolutely hopeless.

But (as I have already said) hæmorrhage from the mucous membrane of the stomach, and from that of the alimentary canal generally, takes place far more commonly by *exhalation*. The evidence that the blood does really thus ooze from the membrane is the same as that to which I have so often had occasion to advert; and it is very satisfactory and conclusive in these cases, because we are able to scrutinize closely the whole extent of the mucous surface. This cannot so well be done in regard to the mucous membrane of the *lungs*. When death has followed immediately upon the hæmorrhage, and has indeed been its rapid effect, the membrane has been found completely entire, and of its natural consistence and texture throughout. Sometimes partially red, and pulpy and vascular; sometimes universally so, the submucous capillary network of vessels being still gorged with blood; sometimes quite pale, the same system of vessels having been completely emptied by the last attack of hæmorrhage; and sometimes studded with minute dark points, which could be made, by slight pressure, to start from the surface, and looked like grains of black sand. This latter appearance, as I once before remarked, is very corroborative of the opinion that the blood escapes through the natural pores or channels; which it cannot enter so long as the solids and fluids of the

body retain their healthy condition. These sand-like bodies *are*, doubtless, small portions of blood, which have coagulated in the exhalant orifices of the membrane, and received from them their shape.

This kind of hæmorrhage happens under various circumstances; and is attended with different degrees of danger. 1. The bleeding may be idiopathic. 2. It may be vicarious of some other habitual hæmorrhage. 3. It may depend upon disease or injury of the stomach itself. 4. It may be the consequence of disease situated elsewhere, and producing, mechanically, a plethora of the veins of the stomach. 5. It may result from a morbid condition of the blood, and form one symptom of a more general disease; as in the passive hæmorrhages of purpura and sea-scurvy. Each of these varieties requires a short notice.

Idiopathic hematemesi.—Hæmorrhage, strictly idiopathic—*i. e.*, independent of any apparent change of texture, whether in the surface itself, or in any part obviously capable of influencing its blood-vessels—is as rare, I believe, from the mucous membrane of the *stomach*, as from that of the *lungs*. I have never seen, nor do I recollect to have read of, any instance of hematemesi analogous to the *epistaxis* which is so common in children and young persons; and which affords the most familiar example of idiopathic hæmorrhage.

Vicarious hematemesi.—But hæmorrhage from the stomach, occurring in connexion with other constitutional hæmorrhages, or in their stead—and above all, occurring vicariously of menstruation—is *abundantly* common. It is the most common, indeed, of all the species of *hæmorrhage by deviation*. I told you, in a former lecture, that patients will sometimes menstruate for years together through the lungs; without any apparent injury to their general health. More commonly still do they menstruate through the stomach. I will mention one concise but curious example of it which I had from Dr. Latham, and which came within his own knowledge. A young woman became the subject of hematemesi, recurring at monthly periods, about the age of 14. She had never menstruated. This continued until she married, and in due time, fell with child. Thereupon the hematemesi ceased. She brought forth and suckled her infant. During lactation the hæmorrhage did not recur. It came on again soon after she ceased to nurse the child; no regular menstruation by the uterus having ever happened. This was the woman's own account, and there appeared no reason to question its accuracy.

Gastric hæmorrhage of this kind, vicarious of regular menstruation, is not generally thought to have any tendency to shorten the existence of those who are afflicted with it.

Cullen states broadly that this species of hæmatemesis is hardly ever a dangerous disorder: and this is true. Yet it is not so *entirely* free from peril as to preclude the necessity of *some* caution and qualification in stating the prognosis. The exhaustion from the mere loss of blood is sometimes so great as to create serious alarm for the patient's safety. And Mr. North has recorded (in the *London Medical and Physical Journal*) two instances in which suppressed menstruation was followed by repeated and at length *fatal* hæmatemesis. In neither of these women was the health seriously deranged; nor, previously to the hæmorrhage, did there exist debility, or any other symptom calculated to induce the apprehension of danger. In fact, in both of these cases, a strongly favourable prognosis was given by experienced physicians a very short time only before the fatal event.

Hæmatemesis from gastric disease or injury.—Gastric hæmorrhage, by the way of exhaustion, is often a consequence of disease or injury of the stomach itself: it is sometimes one of the earliest declaratory symptoms of scirrhus or cancer of that organ—occurring long prior to ulceration. Hæmatemesis attends also, very commonly, the *ultimate* stages of that fatal disease: and then it may be owing to the erosion of some vessel of notable magnitude, in the course of the process of disorganization, as in the examples already spoken of: or (what I believe is far more common) it may result from a kind of general oozing or exhalation from the ulcerating surface. Blood is often vomited soon after the reception of strongly irritant poisons into the stomach. I shew you again Dr. Roupell's plate, representing the crimson surface of a portion of the stomach of a dog which had been killed shortly after the administration of a dose of alcohol. The intense congestion thus produced is doubtless *active* congestion; congestion belonging to inordinate *arterial* action. Pushed a degree farther, such congestion passes into hæmorrhage.

Hæmatemesis from disease in other organs.—On the other hand, intense *passive* congestion—congestion arising from the detention of blood in the *veins* by some mechanical obstacle to its process—is a very common source of gastric hæmorrhage. Hæmatemesis is therefore an occasional symptom of obstructive disease in the heart. Much more frequently, however, it depends upon abdominal changes. The hæmorrhage is symptomatic of disease situated not in the stomach itself, but elsewhere. And the viscera, with the diseases or morbid conditions of which, bleeding from the stomach is most often connected, are the liver and the spleen.

All this is well known: and it is easy to see, from the peculiar construction of the

venous apparatus in the abdomen, how disease of one or both of these viscera may produce mechanical congestion of the submucous capillary tissue; and how that congestion may be relieved, under certain circumstances, by the effusion of serous fluid on the one or the other surface, constituting ascites or diarrhœa, as the case may be; or under *other* circumstances, not perhaps easily discriminated or well understood, by the extravasation of the collected blood itself. It would be superfluous to describe the peculiar distribution and functions of the vessels which return the main portion of the venous blood from the stomach and intestines towards the heart. It seems to me highly probable that one at least of the offices of the *spleen* is to provide a receptacle or reservoir for this blood when its free passage through the portal vessels is temporarily obstructed. It then becomes a sort of safety valve (if such an illustration be allowable), which obviates the danger that might otherwise arise to more vital parts from any great or sudden disturbance of the venous circulation. The stress of the congestion is continually felt in the submucous capillary system; and the hæmorrhage which is apt in such cases to occur from the loaded membrane, receives a simple solution upon principles almost purely mechanical; nay, the very circumstances which lead to the effusion of the blood from the *mucous* surface on the one side, rather than from the *serous* on the other, may perhaps (as I stated more at large in an early part of the course) be themselves susceptible of mechanical explanation.

Gastric hæmorrhage, symptomatic of hepatic disease, is chiefly to be looked for in those morbid conditions of the liver which imply obstruction of the portal vein and of its ramifications. We are not surprised, therefore, to find it coincident, often, with a contracted and shrunken state of that organ. The state of the spleen, on the contrary, for reasons that must be obvious to you, is uniformly, in the cases we are now considering, a state of *enlargement*. And the augmentation of bulk is not so much to be ascribed to disease inherent in its proper texture, as to distension by the mere quantity of blood which it holds. The internal structure of the spleen furnishes a credible presumption in favour of that view of one of its uses to which I just now alluded; and this structure, and this presumed function, when considered together, throw a strong light upon some of the pathological relations of the spleen which well deserve attention.

Numerous instances are on record of hæmatemesis going along with evident enlargement of the spleen; and in some of them that organ has been observed to diminish in bulk, in proportion as blood was poured out

by the stomach. If I am not greatly mistaken, I have more than once seen this myself. In such cases the tumid condition of the spleen may be regarded as an evidence of venous obstruction *elsewhere*; and as depending, sometimes at least, upon disease of a less striking and prominent character in the liver, impeding the progress of the blood through the vena portæ. Of this kind would seem to have been a case related by Morgagni, wherein, after repeated attacks of hematemesis, under which the patient sank at last, the spleen was found to weigh four pounds, and to be gorged with dark blood; while the liver was pale and exsanguine. Frank gives the history of a patient, who had vomitings of blood, and whose spleen, taken from the body after death, weighed sixteen pounds: the ordinary weight of the spleen in a healthy adult being from eight to ten ounces. In Latour's work on Hæmorrhage, which is remarkable for the number of examples it contains, collected from various sources, and amounting to nearly a thousand, several instances are detailed of this combination of splenic enlargement and hematemesis. One of these occurred in the person of a friend of his, who had been living in a malarious district, and who had laboured for nearly two years under obstinate intermittent fever. This was followed by an immense enlargement of the spleen—a great *ague-cake*—which came to occupy almost the whole of the abdomen. Latour's experience enabled him to predict that hematemesis would probably supervene upon this condition of the spleen; and, accordingly, one night he was called in a hurry to his friend, and found that he had vomited an enormous quantity of clotted blood. A great deal passed away through the bowels also. The hæmorrhage recurred from time to time, till in the course of a month the spleen was so far reduced in bulk, that it could no longer be felt in the belly; and the patient lived, and enjoyed good health, for twenty-five years afterwards.

It is necessary, therefore, in marking the connexion which frequently subsists between hematemesis and enlargement of the spleen, to guard ourselves against concluding that these two circumstances hold always the relation of cause and effect. In many such cases, probably in most of them, they are simply concurrent effects of one common cause; and that cause is chiefly to be sought in such morbid conditions of the liver—or of other parts within the abdomen—as are competent to produce a considerable impediment to the free transmission of blood through the system of the vena portæ.

When gastric hæmorrhage results from hepatic obstruction, there is almost always *intestinal* hæmorrhage also. At any rate there are almost always black alvine evacuations, like

tar or dark paint. This form of disease has therefore been called *melæna*. The ancients supposed that the unnatural stools consisted of black *bile*.

Hæmorrhage from the stomach, independent of *disease* in that or any other part, sometimes happens in the advanced periods of utero-gestation. Yet, though it does not result in these cases from disease, it is difficult to class it among idiopathic hæmorrhages. The want of periodical recurrence, and the absence of the hæmorrhage during the *earlier* months of pregnancy, are circumstances which sufficiently refute the old notion, that this form of hematemesis depends also upon the suspension of the catamenia. It is caused, no doubt, by the pressure of the gravid uterus, which impedes mechanically the venous circulation in the abdomen.

Hematemesis from disease of the blood.—Gastric hæmorrhage, resulting from changes in the blood itself, occurs in sea-scurvy, in purpura hæmorrhagica, and in the yellow fever. Being merely a symptom in these cases, it requires no separate consideration here.

Phænomena of hematemesis.—When a *large* quantity of blood is poured into the stomach, whatever may have been its source, it appears to have a nauseating and emetic effect. At least the blood ejected in hematemesis is almost always considerable in amount. The vomiting may, for aught I know, be dependent on the mere distension of the stomach, which appears to be tolerant of the presence of the blood up to a certain point, but no farther. A small quantity may, doubtless, pass all of it onwards through the pylorus, after undergoing, more or less completely, the process of digestion in the stomach; and a *portion* of the blood pursues that course in most instances. But when it is vomited, it comes up in a large quantity, usually of a dark colour, and more or less coagulated. Sometimes the coagula have evidently been moulded in the stomach; and sometimes clots are thrown up, partially deprived of the colouring matter of the blood, and resembling the fibrinous polypi so often met with in the cavities of the heart. Of course the degree of the coagulation of the blood, and of its separation into serum and crassamentum, will depend upon the time that it remains in the stomach; and this again would seem to bear a proportion to the rate of its effusion.

The blood that is vomited is almost always of a dark colour; while that which is coughed up is most frequently florid and bright. Why is this? We are told that the blood which comes from the lungs is rendered florid by the admixture of atmospheric air. But this is not the whole of the matter. Neither can we say that the dark hue of the

blood ejected in hematemesis is always, or solely, due to some morbid alteration effected in that fluid while yet circulating in its proper vessels. There is another cause, which, till of late years, was much overlooked, but which frequently changes the colour and appearance of the blood *after* it has been extravasated into the stomach; and that in so great a degree as sometimes to render doubtful, or to disguise altogether, the real nature of the fluid vomited. I mean the chemical agency of the gastric acid. The effect of acids in blackening the blood out of the body is well known; and it is somewhat singular that the ascertained existence of an acid secretion in the stomach, varying in quantity at different times and under different circumstances, was not sooner applied in explanation of the dark colour of the blood, and its occasional blackness, when vomited. The degree of blackness will be in proportion to the relative quantity of acid which it meets with in the stomach, and the intimacy of the admixture. Sometimes the blood is clotted and not very much altered in colour; sometimes it is grumous, brown, of a chocolate tint, or like coffee-grounds. This generally denotes the existence of *organic disease*; and the appearance of the blood is probably modified in some degree by the morbid process that leads to its effusion. There is good reason for believing that in the *black vomit* of the yellow fever, the colour of the blood undergoes alteration, even while it is yet circulating through the blood-vessels: but that the black appearance of the matter vomited is in great part owing to the chemical action of the gastric acid, may be inferred from the fact, that the fluid so discharged is always (so I am informed) intensely acid. Andral has described an effusion of black liquid into the stomach, as an example of *melanosis*. He states at the same time that an accurate analysis of the liquid shewed its composition to be very nearly the same with that of the blood. May we not suspect that this inky fluid really consisted of blood that had been blackened, subsequently to its extravasation, by the acid with which it mixed in the stomach? Upon the same principle may be explained the dark brown, or almost black colour of the spots which are sometimes seen (I presume when there has been a great predominance of acid) in the substance of the mucous membrane of the stomach, or even beneath it; and which have also been set down as melanotic. They are so like, in all circumstances, except in the single particular of colour, to the crimson spots which are obviously formed by minute extravasations of blood in the same parts, that we can scarcely refer them to any other source. The slate-coloured patches, which I spoke of yesterday

as being vestiges of chronic gastritis, depend likewise upon the blackening effect of the gastric acid upon the congested surface. We have the same dark colour of the effused blood, in many cases, when it is poured out in the intestines. Here, of course, its colour is not referable to the gastric juice; but it is blackened by some of the intestinal gases: probably by the sulphuretted hydrogen, for example, or the carbonic acid that enters into their composition.

There can be no doubt that this gastric acid, when intense in strength, or copious in quantity, is capable of changing the colour of the blood, after death, even while it is contained in the submucous blood-vessels. In these cases it must be conveyed to the blood by imbibition. And the very same thing takes place when strong acids are introduced into the stomach from without. When, for instance, the sulphuric acid, or what is perhaps more to the present purpose, the vegetable oxalic acid, has been taken as a poison, it has the effect of blackening, and, as it were charring the blood, with which the membrane becomes loaded in consequence of the irritation produced by the poison. It does this when no destruction of the mucous membrane has been produced.

It is but justice to observe, that the credit of having been the first to perceive, and to explain, this cause of the blackened state of the blood, while yet remaining in its proper vessels, is due to Dr. Carswell.

Diagnosis of gastric hæmorrhage.—When blood is ejected through the œsophagus and mouth, we have demonstrative evidence of the existence of *hæmorrhage*; and the *diagnosis* of *hematemesis* may appear to be so simple as to admit of neither mistake nor doubt. The diagnosis of *hæmorrhage from the stomach*, however, is really oftentimes difficult and obscure, and to be established by presumptive evidence alone.

In the first place, bleeding may take place from the mucous membrane of the stomach, and no hematemesis ensue, especially when the blood is poured forth in small quantities and slowly. In these cases the blood becomes visible only in the stools, where it may not be looked for, and where, if seen, it may not always be recognized, in consequence of the changes it has undergone during its passage through the intestinal canal. And even supposing that its presence is detected in the alvine evacuations, it will remain uncertain in what part of that long canal it was effused. The hæmorrhage may even be profuse, and the patient may die, without *any* escape of the blood externally. There is a case related by Frank, in which death took place from hæmorrhage of the stomach without hematemesis; and both the

stomach and the intestines were found distended by an enormous coagulum of blood which had assumed their form.

Even when the blood is ejected by the mouth, the exercise of some care and sagacity are occasionally, though not always, required, in order to determine the part from which it was originally poured out.

Thus blood may be swallowed, and afterwards vomited : and so we may have hematemesis without hæmorrhage from the stomach ; just as we may have hæmorrhage from the stomach without hematemesis. There are cases of slow bleeding from the lungs, the fauces, the mouth, or the nasal cavities, where the blood, collecting in the pharynx, provokes, from time to time, an instinctive and involuntary act of deglutition ; and thus is gradually accumulated in the stomach up to that point at which the organ becomes impatient of its contents, and ejects them by vomiting. This is very apt to happen during sleep, and especially to young children : and as the blood, *when vomited*, is coagulated, and in considerable quantity, it is scarcely possible to conclude, from its mere appearance, that it has proceeded from any other source than the stomach itself. If, however, we mistake such cases, our error is likely to produce much needless alarm, and to lead us to unnecessary activity in treating them. We are assisted towards forming a right judgment (when our attention happens to be directed to this source of fallacy) partly by the general history and symptoms, and partly by an examination of the mouth, fauces, and nostrils, to ascertain whether any coagula, or other marks of hæmorrhage, are visible on the mucous membrane belonging to those parts.

But blood may be swallowed knowingly, and purposely, by impostors, and afterwards vomited. Hematemesis is one of the complaints which have frequently been feigned ; either for the sake of avoiding some imminent punishment, or distasteful service ; or with the view of exciting compassion, and of profiting by the contributions of the charitable and the credulous ; or sometimes from a kind of wilful perversity, akin to insanity. In treatises on forensic medicine, you will generally find a reference made to an instance of this kind recorded by Sauvages, in his *Nosology*. A young girl, who was anxious at all hazards to escape the constraints of a convent, pretended that she was suffering from violent hematemesis. In fact she did, for several days in succession, vomit large quantities of blood in the presence of the physician who had been summoned to her assistance. It was afterwards discovered that on each of those days she had swallowed blood which had been secretly conveyed to

her from the neighbouring shambles. A case of precisely the same kind occurred (as I was informed by a gentleman who witnessed it) in the Bristol Infirmary some years ago. A girl had been long a patient there, labouring (as was supposed) under hematemesis ; but it was at length discovered that she was a malingerer. She was in the habit of assisting the nurses in their work ; and this afforded her opportunities—of which she availed herself—of drinking the blood which had been drawn from the veins of other patients : and this blood she afterwards vomited.

And even where no fraud is attempted, nor any blood swallowed, it occasionally becomes a nice matter to determine the origin of the hæmorrhage, when blood is ejected in large quantities from the mouth : to decide, namely, whether the blood has come originally from the *lungs* or from the *stomach*. In copious hæmoptysis, the blood issues from the mouth in gushes, as it does in hematemesis ; and the reflux of the blood into the pharynx, the tickling sensation it there produces, and the cough (which we know, even when the expectoration is not of blood, frequently excites retching) ; these causes, acting singly, or together, occasion sometimes a convulsive contraction of the muscles of the thorax, which *looks like* the effort of vomiting : and they often indeed give rise to actual vomiting. On the other hand, in sudden and profuse hematemesis, the irritation caused by the blood as it passes over the upper part of the larynx, is apt to provoke a paroxysm of choking cough.

Now when I was speaking, some lectures back, of hæmoptysis, I promised that I would point out the means of distinguishing it from hematemesis, when I came to the consideration of the latter complaint. I have now therefore to redeem my promise.

However equivocal certain cases may be at first sight, we may generally guide ourselves to a correct decision by a careful investigation of the circumstances that *precede, accompany, and follow*, the hæmorrhage. *Vomiting* of blood is commonly preceded by a sensation of weight and uneasiness in the epigastrium ; and by nausea. Hematemesis is also, more frequently than hæmoptysis, ushered in by paleness of the face, dimness of vision, and an approach to syncope, or even actual fainting. These symptoms are not to be regarded (I apprehend) as premonitory of the *hæmorrhage*, although they have been so considered by some ; they are rather a sign that it has already taken place ; and yet they *are* preliminary of the *hematemesis*. Occurring before the blood comes up, they cannot be ascribed to alarm at the *sight* of it. On the other hand, *hæmoptysis* is wont to be announced by

dyspnœa, cough, tickling in the throat, and a sensation as if of *bubbling* within the thorax. Most commonly too, before the expulsion of much blood from the lungs, some sputa are *coughed* up, composed more or less of that fluid. The symptoms that usually *succeed* the hæmorrhage, in either case, afford equally valuable assistance to our judgment, in cases that might otherwise be doubtful. Generally copious hæmoptysis goes on, in a succession of mouthfuls, for some time ; whereas there is mostly only one access of full vomiting. At any rate, at the close of abundant pulmonary hæmorrhage, the patient manifestly *coughs* up, and expectorates smaller quantities of blood ; while we usually may observe that, a few hours after hæmatemesis has occurred, slight griping pains come in the abdomen, and a portion of blood is got rid of from the bowels.

Other questions, often of much importance in regard to the ultimate diagnosis, when the blood is traceable with certainty to the stomach, are, whether it be idiopathic, if, indeed, it *ever* be so : whether it be supplemental of some other discharge : whether it depend on disease of the stomach itself ; of one, or more, of the contiguous viscera ; or of the system at large. Certainly a very great majority of cases of gastric hæmorrhage are symptomatic ; and the nature and seat of the disease of which the bleeding is a symptom, may, in many instances, be determined without much difficulty. That which depends upon *incipient* cancer of the stomach, while it is by no means of rare occurrence, is also (I think) more frequently than other forms of hæmorrhage from that organ, obscure. It must be obvious to you, and therefore I need not dwell upon this part of the subject, that a little attention to the symptoms and past history of the patient will usually suffice to elucidate the nature of the case, where hæmatemesis supervenes immediately upon the introduction of corrosive poisons, or within a certain interval after they have been swallowed : where it depends upon the bursting of a large aneurism : where it breaks forth among other symptoms of scurvy or purpura : where it is the result of an *advanced* stage of cancer of the stomach : where it accompanies organic disease of the liver, spleen, or heart : where it occurs as a symptom of yellow fever : where it takes the place of suppressed or imperfect menstruation : or where it is occasioned by the pressure of the gravid uterus. In all these cases, there is, ordinarily, no room for mistaking the one disease for the other ; or for regarding the hæmorrhage as idiopathic.

With regard to the *treatment* that should be adopted in cases of hæmorrhage from the stomach, it must be apparent, from what has just been said of the many different

morbid conditions upon which it may depend, or with which it may be essentially connected, that remedies are, in most cases, rather to be directed against the disease of which the hæmatemesis is a symptom, than against that symptom itself. But sometimes we are obliged to treat the symptom, either because we are not certain of the exact nature of its cause ; or because the condition out of which it springs is not within our reach.

Cases of *melæna* (I have told you what is meant by that term) require hard purging : and many patients recover thoroughly under that mode of treatment. You may prescribe five grains of calomel every night, and a black dose every morning, till the stools lose their pitchy colour. Do not be afraid of purging your patients in such cases. If they are curable at all, that is the way to cure them. I have pursued that plan with perfect success, even with patients whom the previous hæmorrhages had blanched, and whose pulse was feeble and irregular. You may sustain them, at the same time, by a full allowance of nourishing broths. The portal system is drained and unburdened by this active depletion. And if there be no irremediable change of texture in the liver, the recurrence of the hæmorrhage may often, by a proper regulation of the habits and diet, be obviated. The ancients had learned by observation, the efficacy of treatment of this kind ; but they used a different form of medicine, and purged away the *atra bilis* with hellebore.

It is plain that for melæna, dependent on mechanical congestion, *styptic* substances would be worse than useless. They are more adapted to those cases (could we but surely distinguish them) in which the hæmorrhage proceeds from a bleeding vessel. This is indeed the mode whereby we often succeed in staunching external hæmorrhages ; namely, by applying astringents to the very part. Similar means may be employed when hæmatemesis, of a purely passive character, depends upon some modification of the circulating blood. There is one remedy which is thought to have a sort of specific effect upon hæmorrhages of the gastro-intestinal canal : I mean the oil of turpentine, given in small doses ; from twenty minims to half a drachm every four or six hours. I cannot say that I have had much experience of it. Of course the patient must be kept cool and quiet ; whatever he drinks he should drink cold ; even ice is often both grateful and effectual. If ordinary measures fail, recourse may be had to the acetate of lead ; or even to the quack medicine, Ruspini's styptic. Not that I think you will often find the latter expedient successful, when more rational treatment has failed ; but in obstinate and dangerous cases it ought to be tried. If, with the hæmatemesis, there be

any fever, it may be proper and necessary to abstract blood from a vein, and to employ refrigerant substances as remedies : and if, with or without much fever, there should be tenderness at the epigastrium, leeches, or a blister, are to be applied. In cases where the catamenia desert their natural channel, and seek an outlet through the mucous membrane of the stomach, it will be well, while means are taken to discourage the hematemesi, as iced drinks and so forth, to endeavour to solicit the discharge in the right direction. And we often succeed in this object, by placing leeches upon the groins of these patients immediately before the period when the vicarious menstruation is expected ; and by putting their feet, at the same time, into hot water ; or even laying them in a warm hip bath.

ON
ARTIFICIAL CLIMATES,

FOR THE RESTORATION AND PRESERVATION
OF HEALTH : TO BE CONSIDERED UNDER
TWO HEADS.

I. *The atmospheric treatment of the lungs.*

II. *The atmospheric treatment of the lungs and skin.*

BY JULIUS JEFFREYS, F.R.S., &c.

[Continued from p. 915.]

IN advocating, as a measure of great importance, the administration uninterruptedly to the pulmonary membrane in acute affections of the chest, of an atmosphere, not only purified and well regulated as to its temperature, but of a peculiar hygrometric condition, it was not requisite to discuss the *modus operandi* of liquid applications any more than many other measures of practice in medicine, of the value of which we entertain no doubt, though we are compelled to remain very doubtful as to the manner in which they act. I was therefore desirous, as formerly stated, not to involve the practical views with disputed questions in physiology. Had the mind not entertained the question at all, one fact alone might almost suffice, I think, to assure us of the wants of the membrane, in the case of a pulmonic sufferer, namely, the arid state of the breath. It could not be in that state, had it visited in every tube a moist surface. Its dryness indicates the painful dryness of the membrane which could yield so little moisture to it.

Water, especially when warm, and

exerting its influence long, produces so curious, and in the case of inflamed surfaces, so important an effect on the extreme circulation, that I hope an endeavour to establish its mode of action will not appear an unprofitable or uninteresting occupation of time ; and with respect to the vaporous application of moisture to a membrane, it is hardly necessary to predicate of it, that its action, though less in degree, must be similar in its nature to that of moisture applied in the liquid form.

It is not the vulgar only, who, viewing common-place facts as matters of course, fail to have their attention arrested by them. Powers of observation superior to theirs do not always guard us against this influence of familiarity to induce neglect. In the present instance it is common to describe the effects of warm water, either when acting on a healthy member, or when soothing an inflamed part, as a "relaxation occasioned by the warmth and moisture;" but this is to cover an obscurity with an expression equally obscure and undefined. Many physiologists of note have attributed the phenomena of inflammatory *distension* to relaxation in the capillary vessels of the affected part ; and here we find the same term "relaxation" applied to that condition of a part, the *opposite to distension*, which is produced by a long-continued application of moisture. Were a person unacquainted with therapeutics, having witnessed with astonishment that which would indeed be surprising, were we not familiar with it, namely, the action of a fomentation or poultice on an inflamed part, causing a shrivelling of the surface and diminution of the swelling, to ask his surgeon the cause of it, I am not aware that any satisfactory explanation has been propounded which could be offered, or that any can be, until some decided opinion is established upon the circulation of the blood in the capillary system of vessels.

In a still more familiar case, and one not complicated with any question involving in it the nature of inflammatory action, namely, the very vulgar but very curious phenomenon of the well-soaked hand of a washer-woman (or still better of a hand well soaked for the first time), were she to hold it out to a physiologist, and ask him why the water which swelled all other things left in it produced an opposite effect upon her fingers, causing them to be-

come so bloodless and shrivelled as actually to measure less than usual, I know of no received explanation of this fact which would afford him a ready, and at the same time a satisfactory reply.

When the hand has been long immersed in water, especially if the epidermis is scoured by alkali or soap, the appearance which presents itself, being a matter of course in the sight of the vulgar, is not likely to lead to such an inquiry as has been imagined. Nevertheless, it could not be explained by any laws yet established with respect to the physiology of the skin and of the circulation. The action is by no means confined to the epidermis, as some have thought. Were it so, indeed, there would result from the thickening which takes place in it, as in all other organic matters not possessed of vitality, when thoroughly soaked, an increase in the bulk of the fingers; whereas, when the experiment is favourably made, the diminution is very considerable. The wrinkling, translucency, and shrunken appearance of the fingers, shew that they are in a bloodless state; that an effect has been produced, not upon the colourless only, but even upon the red-blood circulation, which is not travelling out to its usual limits. Confined, in the instance before us, to a small portion of the surface of the body, the effect of this disturbance of the circulation is not perceptible; but were so considerable a recession of the blood to become general, the consequences could not fail to be serious. In cases of cholera in India, when running a rapid course, I have often been struck with the similarity of the extremities in their shrivelled and bloodless appearance to a member long immersed in water; a state, however, which I conceive to be an effect, and by no means a cause, in this disease.

The question, then, before us assumes two forms. First, into the simpler case, in which a marked effect is produced upon the surface of a healthy member by long immersion in water; secondly, into the more complicated case, where an important, though less considerable, effect is produced by the same agency upon the surface of an inflamed part.

In both these cases we find, at the threshold of our inquiry, certain phy-

siological points which must form the very ground-work of our reasoning, to be still subjects of controversy. These are, first, whether or not the skin can absorb a bland fluid-like water applied to it; secondly, whether the capillary vessels of the circulating system are actively engaged in propelling the blood, or are mere passive hydraulic tubes allowing it to flow through them by the propulsion communicated to it by the heart; thirdly, if the capillaries are active themselves, whether the blood is the natural stimulus which excites them, as it does the heart, to action; and whether, as in the case of this organ, the action varies with the degree of its stimulating quality.

These are points to be decided before we can reason upon either of the cases proposed. In the latter case, where the liquid acts upon an inflamed part, another much controverted point has to be settled, namely, whether in inflammation the capillary vessels passively endure the great distension through relaxation or debility; or whether this distension is compatible with an increase of activity in them, or is even caused by it. Presuming my readers to be acquainted with the position to which controversialists have brought these questions up to the present time, I would by no means occupy their attention by a discussion of each at length; but I think the interesting and important cases before us may, by an argument conducted in the following manner, not only receive whatever explanation they admit of in the present state of our knowledge, but may even perhaps reflect light upon the physiological points themselves. Commencing, then, with the simpler case of a part not inflamed, let us suppose that the effect of long immersion in water had never been observed, and that the question were proposed, as to what effects were likely to result from it, to two physiologists—the one of what may be named the passive or negative school, the other of the active or affirmative school.

The former would argue thus:—“More influenced by the views and experiments of those who deny any appreciable power of absorption to exist in the skin, I conceive that no decided effect could be produced by a bland fluid like water acting upon a small portion of the body. But granting that the fluid would be absorbed,

since I deny (he would say) to the capillaries any active contractile power or concern in the circulation, but, with Müller and others, consider them mere passive tubes conveying the blood propelled by the heart, it follows plainly, if water were absorbed at all freely, so as to enter the extreme vessels of the general circulation, partly at their orifices, and in part by penetrating the tissue forming their coats, as is maintained by many, that its bulk must be added to that of the fluids in the part, and a distension of the part would of necessity result. If it were the hand, all the fingers would swell in proportion to the absorption, and to the time requisite for the fluid thus entering to be pushed on with the blood by the *vis a tergo* originating in the heart. Therefore I conclude that the immersion of a member in water would either produce no effect upon it, or if the fluid really entered, it would become swollen in proportion, so long as the absorption into the general circulation continued, and it would remain swollen for some time after its removal from the fluid, until the vessels of the part were gradually relieved of the load."

"With respect to the second case, where the part to be subjected to the aqueous experiment is inflamed, upon the above grounds I could expect (he would say) no good from humid applications. In addition to the reason just stated why the fluid should increase the swelling, I find a cause which would have the same effect in the relaxation of the capillaries, which, in common with high authorities, I hold to exist in all cases of inflammatory distension, and to be a passive cause of it by allowing the heart to inject more blood into the vessels." "If in inflammatory action the capillary vessels of the part are in a state of *passive* distension, I may surely anticipate the aggravation of this condition by the absorption of water into these vessels, if indeed fluids can enter the system by the skin." It appears to me that little objection could be raised to the arguments of such a physiologist, provided we could grant his premises. His anticipations in both cases of water acting upon a healthy and inflamed part seem to flow naturally and inevitably from his physiological views.

On the other hand, if the physiologist

of the active school had to pronounce an anticipation of the effect drawn from the views he entertained, he would argue thus:—"I consider the skin, like other membranes of the mucous character, to possess the power of absorbing congenial fluids freely as soon as they have found their way through the epidermis. Tardily as uncongenial fluids are taken up by the skin, such as poisonous solutions, which I grant would appear from the experiments of Seguin, Rousseau, and others (and it were no cause for surprise that the skin was endowed with some power of refusing such things); we have in the experiments of Drs. Edwards, Southwood Smith, and others, evidence from which we may infer a considerable power of absorbing pure water. All that appears to me necessary (he might say) is the soaking of the epidermis. In its usual condition it would seem, like any other fibrous matter, the texture of which is oiled, to be nearly waterproof; that is, each of its minute scales may be considered so, but overlaying each other they appear to rise to give vent to fluids exhaled, but to be nearly closed to fluids passing from without. By sufficient soaking, however, we may view the whole texture of the scales themselves, as rendered permeable by water, which, on the oil being removed, enters readily into their substance. The epidermis must, then, act, as any other inanimate porous matter, by the physical property of capillary attraction absorbing water at its outer surface, and, like a sponge, conveying it to the true skin within."

"When fluids have reached the true skin, experience, as well as the analogy of other membranes of the mucous character, shows that a ready absorption takes place, partly through the vital activity of the absorbent orifices of the vessels, and in part by that kind of permeation which has been named endosmose, and which appears to arise from a capillary or interstitial adhesive attraction of an elective character."

"In this manner (he might contend) a fluid may, and it is proved does, enter the substance of the true skin, and take up a position in the capillary vessels; and when there, I would expect an effect the very opposite to that which you have described. Instead of the swelling of the part, which I grant must result from the presence of any

extra quantity of fluid, provided the vessels are merely passive carriers of the contained fluids, and not roused to action by the presence or quality of them, instead of this distended state I would expect a diminution of the fullness, perhaps to the extent of a shrivelled and even bloodless state of the part, and for the following reasons:—With many others I entertain the opinion that the evidence tending to prove the circulation of the blood in the extreme vessels to be maintained chiefly by an active contractile power of the capillaries themselves, vastly preponderates, both in amount and force, over that in favour of a passive state of the vessels. Having afforded all that attention to the facts and arguments adduced against an active virtue in the capillaries, which deference to the authority of Müller and others should command, I am unable to discover in the whole of them evidence at all conclusive, or to be compared with that which assigns an active duty to the smaller vessels.”

“Again, we can hardly doubt, the contractility of the capillaries being granted, that the stimulus which excites and modifies their action is afforded by the blood, since we know it to be the agent which urges the heart to action, and that the movements of this organ are regulated in a great measure by the quality of the blood.” We know, also, that the blood is the stimulus which gives action to the cerebral powers, and, indeed, that every hollow organ in the body is affected by the fluid it contains. Doubtless, then, as the blood varies in quality, will the action of the capillaries vary. If we render it irritating, as by the presence of alcohol, the extreme vessels will be excited, and a temporary flushing or distension will result; and, on the other hand, if we dilute it, they will, wanting the usual stimulus, flag in their action. This diminution of the main power by which the blood, according to my premises, is forced onwards against the obstructive resistance offered by the multiplied subdivision of the tubes, must be followed by its natural consequence—namely, that the red blood will not travel out to the limits to which it is usually conveyed; much more of it will return by the larger anastomosing branches, and the capillary system will

be comparatively empty. Now, I imagine that the presence of a bland fluid, like water, by diluting the blood in the smaller vessels, cannot fail of producing these effects.”

“I would be led to expect the absorbed water to be more efficient, acting in this manner, in diminishing the fullness of a part, than by its mere bulk in distending it; for it is probable that a very little water absorbed into the capillaries would suffice for lowering their tone for the time. As to the epidermis, it would, of necessity, swell like any other distensible porous matter not possessed of vitality; yet the thickening of it might not, by any means, compensate for the flaccidity of the vascular parts beneath, and upon the whole a perceptible shrinking of the part might be expected. Thus, while all inanimate organic matter swells by immersion in water, I would anticipate, in the case of a living member, a shrinking and empty state of its surface.” This physiologist might proceed to say, “In proportion as means were employed, by oiling, or otherwise guarding, the epidermis against the action of the water, we might expect the effect of the immersion to be small; and on the other hand, if by the aid of soap and alkali the natural unctuous matter were removed from its pores, the effect ought to be proportionally considerable. The hands of females employed in washing ought, therefore, if my premises are right, to present a shrivelled, bloodless appearance.”

“Again,” he would add, “in the second case proposed, namely, the probable effect of humid application to an inflamed surface, upon all the grounds stated, I would anticipate, not injury from increased distension, but benefit from a lessening of it. Viewing the capillaries as actively concerned in maintaining the ordinary circulation, I hold the opinion, in common with many of the most successful inquirers, that these vessels have their activity much increased in a part involved in inflammation. Considering, also, the blood to be the natural stimulant which excites them, I conceive an undue excitability to exist in them when inflamed, which causes healthy blood to be then too coercive, and blood in a febrile state still more so. Under these circumstances, a continued absorption of water, as a diluent of the blood on

the spot, can hardly fail of soothing the vessels, by lowering its stimulus, and thus preventing their distending themselves by undue action—so that, just as in a natural state of a part, when a proper correspondence exists between the quality of the blood and the sensibility of the vessels, if we cause a considerable absorption of water, we shall disturb this condition, and render the blood too feebly stimulating, and the part, as a consequence, too little injected with it, in the other case of a morbid irritability of the vessels, where the blood is too stimulating, we may, by diluting it on the spot, bring about a better correspondence between its quality and this state of the vessels, and may cause the too great injection of the part to subside nearly to the natural condition of fulness. Hence, upon any physiological principles, benefit, not injury, should arise from moist applications to inflamed parts.”

“There is one point, however (we might imagine him to say), which it will not do to overlook. While all other objections to the theory of activity in the capillaries have already been refuted with great ability, especially in the admirable work of Dr. Bostock, one remains, which, though nearly set aside, is not altogether cleared away. It is contended by many able objectors, that contraction of the parietes of a tube involves with it, as a necessity, a diminution of its calibre, and therefore of the bulk of a part made up of such vessels. Hence, that we can hardly understand how activity in the capillaries could favour the entry of the blood into them; and still less, how an increase of this contractile activity could conduce to, or even be compatible with, the state of inflammatory distension. This objection, and this alone, appears to call for attention.” May we not put into the mouth of such a physiologist the following reply? “This objection is apparent, not real. It exists only in the terms in which it is couched, and therefore in the minds of the objectors, and not necessarily in the statics of the case. If any hollow tubular body were to contract upon its contents in every part of its entire length, simultaneously, it is undoubtedly plain that the tendency would be to drive them out of it at both ends. Should some *vis a tergo* prevent the contents from going in one

direction, the propulsion certainly would take place outwards in the opposite. As the vessel would become filled again at each relaxation, which always follows contractile action, and the contents be propelled at each contraction, some of the phenomena of the capillary circulation might be thus explained. But such a movement does not accord with the perfection of natural provisions. It is manifest that the reaction against the *vis a tergo* would, to such an extent, be an opposing burden on the action of the heart. Moreover, it would by no means serve even as an awkward explanation of the phenomena of inflammatory distension. Hence, we cannot but feel the force of the objections against the possibility of capillary activity occurring in conjunction with inflammatory distension, pressed by Drs. Thompson, Wilson Philip, Hastings, and others, until we are prepared to abjure the notion of the contraction being of the nature described, namely, simultaneous throughout the length of the vessels. But (he may say) if we substitute, in our views, a vermicular or peristaltic contraction for the continuous, we may, perhaps, remove the difficulty at once. It is by such a progressive *contraction* from the mouth downwards that a leech *distends* itself with blood. In a healthy state, the periods of this peristaltic action of the vessels may harmonize with the action of the heart. The action may be viewed as commencing indeed, *though very feebly*, in the larger vessels, and following up each systolic wave of the fluid, until in the capillaries it is exerted with such force as to be the chief propelling power. In health, then, when all the actions are moderate, at a certain point of the gradual diminution of the vessels by subdivision, the proper coloured portion of the blood being refused further entrance, as the vessels grow too small for it, will naturally find its way through larger vessels into the venous circulation, while much of the thin colourless portion of the blood will pass on through the numerous minute tubes which refused the former, and these may constitute the system of the ordinary colourless, or extreme, circulation. But when such a vermicular contraction is increased, it is obvious the effect must be an increased propulsion of blood along the vessels, and it is only

necessary to suppose this propulsion to exceed the ability of the vessels branching from them to the veins to carry off the red blood, when, as a natural consequence, it will be driven by each successive contraction along tubes ordinarily too small to receive it. There is no difficulty in supposing the parts of the tube which are exerting contraction to exceed in force the mere elasticity of the quiescent parts. We have a familiar instance of this in the intestinal canal, which often becomes distended by substances carried on entirely by its own peristaltic action. Such a state being granted, distension may be its consequence. The case of a leech, already noticed, is an apt illustration of this kind of action. As the distension proceeds, the tube at last cannot contract upon its contents, the fluid within being incompressible. The case of the leech only differs from that of the capillary, in the detention of the blood being absolute, in the many-celled stomach of the animal, while in the vessel it does pass on, but too slowly to clear the way. The two cases, as to the causes of the distension, run sufficiently parallel; their difference is only in degree."

"Thus in the case of the capillaries of an inflamed part, increase of contractile action in them, so far from being irreconcilable with the distended condition, is the very cause which should produce it, if the contraction proceed with vermicular progression. Such a peristaltic propulsion of the blood would well account for the throbbing felt in an inflamed part, and for the undulatory motion of the blood observed to extend even to the venous circulation. If the action of the heart might be conceived to account for the former, I cannot accede to the opinion, that it could possibly extend itself through the infinitely divided capillary system, so as to be perceptible in the venous circulation; whereas the progressive contraction assumed here in the capillary system, and supposed to act in concert with the heart, could well explain a perceptible amount of undulation being thereby maintained in the blood even as far as the veins. Thus, a fact instanced by some as incompatible with activity in the capillaries, becomes one among the many which receive a better explanation by supposing these vessels concerned in the propulsion of their contents, pro-

vided always their action be vermicular, than by the passive hypothesis."

"It would appear a general rule, that wherever living tubes are concerned in the propulsion of their contents, their contraction is of the vermicular kind. From this we might infer, by analogy, that if the capillaries are active, their action must be peristaltic: and it is a fact worthy of note, that physiological experimentalists, in whose observations the highest reliance may be placed, both on account of the character of their authority, and because they are not advocates of the doctrine of activity, and mention the fact merely as an observed truth—it is worthy of note, that in many of their details of experiments on the skin of animals, the capillaries of which had been excited by irritants, until their action became discernible by the sight, the motion was observed to be 'vermicular,' 'oscillating,' and 'peristaltic.'

That Dr. Thompson did not find such motions, in the healthy state†, in the web of a frog, is no matter of surprise, when we consider, that many of the vessels of the web approach in their comparatively large size, and may, therefore, in their structure, to arteries, the small contractility of which is admitted on all hands; and that others should not, in ordinary states of parts experimented on, discern a peristaltic action, is perhaps no other than what might be expected, since even in so large a cylinder as the body of a worm or a leech, a very slight depression traces the course of a contraction sufficient for the propulsion. In a minute capillary, then, we may almost be surprised that even under great excitation the peristole of the vessel could be rendered visible."

On reviewing the positions of either of these disputants, it would, I think, be difficult, granting his physiological data, to refuse his practical inferences. With respect to the one, if the skin does not absorb even a congenial fluid, as is contended by many even to this day, humid applications to the surface should produce little or no effect; and if the power of absorption be granted to the skin, but a power of propelling the blood be denied in its vessels, then

* Dr. Hastings on the Lungs and Mucous Membrane. Page 27, 28, 85, and others.

† Lectures on Inflammation, p. 77.

the effect of humidity would be to cause a temporary swelling of the part proportional to the quantity of water absorbed.

Respecting the views of the other, if we grant to the skin absorption, and to its vessels excitability by the stimulant quality of the blood, as the means by which they bring on the blood and fill themselves with it, we must also grant, that the withdrawal of this stimulus ought to cause a subsidence of their action, and a consequent partial emptiness of them; and hence a flaccid condition of a part made up of such vessels. Lastly, we ought, upon all these grounds, to expect this effect to be favoured by the removal of oily matter preoccupying the pores of the inanimate epidermis. What, then, are the experimental facts? Wholly at variance with the doctrines of the one physiologist, and in strict accordance with those of the other. Moisture, in whatever form it is applied, if its temperature be not irritating, invariably tends to moderate the distension of an inflamed and to render flaccid a healthy part. In the latter case, a simple and familiar act, performed every day in every cottage of a washerwoman, seems an *experimentum crucis*, a guide-post (but fortuitously placed by others) pointing us away from the mazes of capillary inactivity to views of tone and action in the extreme vessels, discernible alike in this case, as in that of secretion and excretion.

To have recounted the various facts and arguments belonging to either side of the controversy upon the capillary circulation, which are to be found elsewhere, would have been a deviation from the path I had chosen, and an unjustifiable occupation of the time of physiological readers. Though I have endeavoured to touch very lightly certain controverted points inseparable from this part of my subject, it has been extended further than the variety of matter before me can well afford. Nevertheless, if any physiological points are worthy of the time necessary for their discussion, such have especial claims on our attention as are continually presenting themselves to our view. In the present instance, it must be desirable to form some better notion of the action of water, both upon a healthy and an inflamed surface, than is conveyed in the common-place expression "relaxation occasioned by

warmth and moisture"—a category in which things assume the position of causes and effects before any such relation had been traced by our reason, before, indeed, the very foundations necessary for any reasoning on the question had been laid, the very principles in physiology concerned being unsettled points of controversy.

[To be continued.]

SLOW-POISONERS IN THE NINETEENTH CENTURY?

BY H. BELINAYE, Esq.

(For the Medical Gazette.)

LATELY, a Hindoo philosopher, raised far above his countrymen by his natural acumen, as well as by his acquired lore, lost altogether his peace of mind when made to behold, through a microscope, the myriads of parasitic monsters that floated in the water, and revelled in the very bloom of the fruit which constituted his food. It is not astonishing that, in the same manner, many persons of a morbidly nervous temperament should live in fear of slow poison, and accuse innocent persons, when they come to know the immense variety of subtle and deadly substances which can minister to the designs of the murderer—some stealing upon the body like a vampire fanning its victim to sleep, whilst the energies of life are absorbed. With such ideas uppermost, I have been consulted in cases of groundless suspicion: I have often been asked by strong-minded persons themselves, how far slow poison is to be apprehended; and how far, also, it can be employed undiscovered. If such injurious, and so frequently unfounded, misgivings prevail in domestic life, in history, on the other hand, the error is wholesale. The great historical poet only reported the general belief of mankind (allowing no prince to die without violent means) when he makes Richard II. rehearse

"The sad stories of the death of kings,
Some poisoned by their wives, some sleeping
killed,
All murdered."

Under these circumstances, I only attempt to contribute such general notions and views as may stimulate inquiry, and such very limited personal experience as one not exclusively de-

voted to medical jurisprudence can possess. Some physicians, like Beckmann, have made "secret poisons" the groundwork of very able, but very brief sketches. Others, on the continent and in England, have tricked out the subject into *ad captandum* essays. These short notices can scarce answer, still less refute, the ponderous volumes which are daily seen to puzzle the historical inquirers at the national library of the British Museum; still less can they meet the new doubts and anxieties suggested by modern crimes perpetuated in high circles of society.

Independently that the notions as to slow poisoning, however exaggerated in sound minds, are far from being unfounded in some important respects, as I shall presently prove, the state of crime, at the present day, naturally encourages these thoughts and apprehensions.

The moral may truly be said to precede the physical poison. With passions wildly excited by the immoral writings of the evil geniuses of the day, more than one Madame Laffarge has appeared.

This most extraordinary paradox cannot be made too generally known—that in certain morbid states, in persons of a highly nervous temperament, there is no propensity of man, and of woman particularly, so intense as that of doing the very deed of which they have the greatest horror; but which, by its very magnitude, absorbs and fascinates the intellect. Once excited beyond certain measure, crime becomes irresistible; and to confirm this paradox of the human mind, we have the experience of the many medical men who have seen mothers openly murder children they tenderly loved, after conjuring the nurses to withdraw them out of their reach. Such I believe to be, in some measure, the explanation to Madame Laffarge's own character, that compound of every thing apparently amiable and every thing really horrible—whose innocence, to this day, has its champions amongst the faculty and legal men—even amongst churchmen.

I think that, on duly sifting the present subject, it will be found that, with a certain important exception, there is, in the way of *slow* poisoning, comparatively little indeed to apprehend. A remarkable dispensation of Providence, in this respect, appears to

watch over mankind, whilst science daily discovers new deadly elements. As far as certainty of detection can prevent this species of crime, the prevention is found in our art. For legal medicine may almost be said to possess now that power which the old romances ascribed to supernatural beings: it can wake the dead from the tomb; show where the poison found its entrance, held its deadly course, and make the victim, as it were, point at the assassin, and say, Thou art the murderer!

I said that there was a use of slow poison in this country, of which there were many instances. It is in cases where its employment leads to a crime from which our laws have but lately withdrawn the capital punishment, and to which our feelings would still assign the direst retribution the executioner could employ. Of this an instance occurred to me many years since, in the earlier days of my professional career, which left an indelible impression on my remembrance. I had been detained until past one in the morning, engaged over my parlour fire, in obedience to a crotchet which then possessed my mind, in bootless experiments upon the solution of human calculi. I was awakened from this absorption of my mind by the rumbling of a carriage, whose attendant, after applying in vain at the two adjacent doors, ultimately violently roused my own knocker. When I inquired the cause of this summons, I was told I was wanted by a lady dangerously ill. When I asked her name, the man told me he did not know, but that the carriage was sent for me. Nearly without practice at that time I "stood not on the going," and in a few seconds I was on my way to see that God-send to a young practitioner, "a patient who keeps a carriage." The vehicle stopped in — Street. The door of the house opened; I was ushered through a long dark corridor into a large room, which has since been used as a gallery for pictures. Here the door was shut upon me. I found myself apparently alone, with an old crone holding with one hand a candle (the only one in the room) and with the other a frying-pan, in which she was preparing a mess which absorbed all her attention. On asking her where my patient was, she gruffly referred me to a bed, dimly

visible, at the end of the room, with the curtains surrounding it closely. There I adjourned, and put the habitual questions of our profession; and receiving no answer, I listened to hear the breathing of the patient: there was nothing audible. I then extended my hand to feel if there was any tenant within. I felt a form beneath the clothes, and passing my hand up, it came upon a forehead so cold and clammy as to excite at once in my mind the greatest fear of imminent danger. I sought the hand: there was no pulse: I introduced, with difficulty, my finger, through a mass of slime and closed teeth, into the mouth, and an icy cold tongue told at once the tragic tale. I then ran and snatched the light from the old crone; and turning back the bed clothes, I beheld a young and handsome woman, of some twenty years of age, with limbs retracted—with nothing on her but a tiara bent out of shape on her head, and an armlet on one of her arms. To my questions and denunciations I could get no answer from the hag, but that since I said the patient was dead, it was clear I could be of no use, and that she advised me “to be off,” otherwise I might be made to repent my threats. Much embarrassed how to act, I thought it better to retire and seek assistance. Immediately I left the room the door was locked upon me—the same was done at the street-door, after being hustled to it through the passage, probably by the man who admitted me, and overheard the scene within. I walked up and down the street in the dark, foggy, rainy morning, in vain hope of finding the watchman, and at last returned home, having forgot, in my confusion even to look at the number of the house. Medical friends, whom I summoned for their advice to my inexperience, withdrew me, I now think injudiciously, from the pursuit of the author of this crime. Many years elapsed, before, accidentally communicating with the highly-respected churchwarden of the parish at that period, I obtained a clue to the name and abode of the victim. I have related this occurrence as one as worthy the attention of the magistracy as well as of medical practitioners, whose acumen and character, and even safety, it may deeply involve. For of this I am certain, that this is no solitary and no uncommon instance. It was no doubt a case of “hocussing” practised

not to produce death (for of course hope was still entertained by the culprit when I was sent for), but for a temporary infamous object, whose accomplishment sealed the fate of the victim.

“Nec via mortis erat simplex.”

So far as regards the use of slow poisons employed under such circumstances, and others doubly murderous administered so frequently to young women in the gravid state, there can be no doubt, although from their secrecy and obscurity requiring the utmost vigilance and research. I repeat, that the administration of poison under such circumstances is daily recurring—employed by many without knowledge of its deep criminality. An instance has come to my knowledge at this very moment.

As to slow poisons, under other circumstances, the case is far different. Involved in some difficulty from its very nature, historians have seconded the vulgar in surrounding the subject with every species of delusion and exaggeration. Far from the most deadly poisons being due to recent chemical philosophers, the researches of science have not added more powerful poisons to the list than the voyages of travellers amongst savage nations. Independent that such is the perversity of mankind, that in the history of the world the first steps made in chemistry have always been seen to arise from a search after poisons, as Sismondi has justly observed; nature abounds in poisons. What can exceed the power of the poison with which the Indian of Guiana tips his arrow, and then brings down a bird on the wing, which, if it did not die on the spot, would be lost in thick jungles which overspread that primitive soil? We have in our antipagan days our *aruspices*, who, like Cicero, think certain animals “*rerum augurandarum causa natas esse*.” These high priests of science, like Brodie or Magendie, examining the viscera of creatures still living, employ the poison of the Indians, such as the wooraroora, not the venenose salts discovered by science to control the resistance and to abolish pain in the animals they operate upon. The only striking instance where a newly-discovered element was employed of late years as a secret poison, was by

Dr. Castaing, who, with cold-blooded villany, poisoned two brothers, his benefactors as well as his patients. The acetate of morphine, although thus administered by a physician of high medical education, who had his patients entirely at his mercy, produced at least in the last of the murders he perpetrated, as sudden a death as the oil of laurel given, in a celebrated instance, to Sir Theodosius Boughton by his comparatively ignorant brother-in-law. In the case of Laffarge no savage and awkward butcher could slay an untethered ox with more ruthless violence than Marie Capelle in operating by repeated doses of arsenic upon her husband. In the ever-memorable and true tragedy of Sir Thomas Overbury, although he likewise was at the mercy of his murderers, for six months they could not kill him by slow poison; and the satellites of the King James's favourite were obliged to resort to suffocation for his "coup de grace." Arsenic, in the first of these cases, was the poison exclusively employed; in the second instance, it was also the principal ingredient, although combined with lunar caustic, cantharides, and spiders. Slow and *secret* poisoning by arsenic, it is difficult to believe in as producing the infamous object in the manner at least reported in the majority of cases. We employ it as a tonic, and, if this and other tonics be gradually increased by small increments, it would make a patient another Mithridates*. It appears probable one would get accustomed to it, in the majority of instances, like we do a species of domestic poisoning we are daily exposed to, that from the verdigris of ill-tinned copper

* To show the power of habit. It is not only that in the pursuit of short-lived dreams of happiness our opium-eaters swallow constantly immense quantities of that drug; and that Haitch, that aphrodisiac which, far more powerful as a poison, as well as far more wonderful in its effects on the imagination, is swallowed with equal impunity. For an instance more in point: in Dr. Ströhmeier's work we have the case of a Tyrolese peasant, who swallowed for years ten grains of arsenic with his dinner as a stomachic. And again, a Turk, whom Byron has immortalized, who lived to be 100 years old, swallowing daily corrosive sublimate in large quantities, a fact confirmed by highly talented medical observers. Perhaps the effect of the use of calomel in India, the abuse of it by laymen, and still more by medical practitioners in England, further corroborate my views. Here a grain of calomel is the inevitable and simplest of remedies given to infants. As life advances the doses are increased, until at advanced age the hypochondriac may be said to be converted into a moral as well as physical barometer.

saucepans, the source of the dyspepsia, but seldom of the death of the victims of incautious cooks. La Spara, to whom so many deaths, in Italy, are attributed in the 16th century; Tophana, who sold the oil passed off as exuding from the tomb of St. Nicholas of Bari, and who was still more murderous than his predecessor, cannot have produced slow deaths by these salts, as Dr. Hahnemann, the father of homœopathy, asserts. Arsenic, if the stomach gets not accustomed to it, particularly if increased in quantity, must produce fresh and sudden suffering every time it is taken, however disguised. The effects of small doses of active poison, when not in extreme dilution, are proved by the practice of Hahnemann's pseudo-disciples themselves.

The less honourable amongst the homœopaths (allopaths at heart, and not trusting to what Voltaire slyly called "*l'art d'amuser le malade, pendant que la nature le guérit*"), employ such exceedingly violent medicaments, as in very minute doses, and infinitely small volume, can produce an effect*. Thus have we seen a nobleman, known all over Europe, die suddenly—and poisoned, according to the verdict of the jury—for having taken six instead of two pills at a time, whilst of ordinary homœopathic medicine, the quantities of some million doses, are ordered at once by such incorrigibly ignorant practitioners as that allopathic faculty, of which I am a humble adherent, although thanking heartily Hahnemann for banishing large doses of medicine from practice, and showing once more to clear-sighted men the effect of rigorous diet alone.

It is hard to believe that the great personages of history were poisoned by medicated gloves, bouquets, saddles, slippers, handkerchiefs, &c. like Henry the Sixth of Germany, the wife of

* I could adduce several instances from my own observations of the most serious effects of homœopathy—some in cases where minute doses of violent medicines were administered; and others of cases of violent inflammation, where patients have been brought to the brink of the grave by the neglect of active remedies. Dining one day at Blackwall, I asked my amiable and eccentric neighbour, the late Lord D—, what it was we saw him swallow when he was coming across the garden. "I bled myself by two of these admirable homœopathic pills," answered the bon-vivant. It did not prevent the agreeable epicure from tumbling down in a fit before dinner was ended, and the old-fashioned medical man bleeding him, and that with a lancet.

Henry IV. of France, a prince of Savoy, a king of Naples, and others without number. It is as difficult of credit as that perfect harmony was restored to a married couple, who were previously constantly at daggers drawn, by removing a bundle of hyoscyamus seeds concealed in the room where they habitually sat, as stated in the "Grand Dictionnaire de Médecine." Still less conceivable is it that the secret poisons employed by Catherine de Medicis, and those that La Spara, La Tophana in Italy, La Vigorereux, and La Voisin in France, made a regular commerce of, could produce death by being used as prescribed at the distance of one or six months, according to the pleasure of the murderess. Amongst the great number of young married women of France, whom the Pope had executed at Rome in the 17th century, for poisoning, most of the slow-poisoners were probably guiltless. Madame de Sévigné's inimitable Letters convey the exaggerated terror which, no doubt, possessed Louis XIV., when he established the "Chambre Ardente;" and amongst the ladies of noble and even of royal blood, whom the monarch so unreservedly and impartially punished in his reign, La Brinvilliers is the only one unequivocally proved to be culpable: and even here Voltaire has justly pointed out the exaggerations of the *avocat sans cause*, who has reported her crimes and her fate. During the ages up to a recent date, when that witch mania prevailed, of which fancy so many thousand innocent persons were victims, not only did ladies pride themselves as much on being bewitched as they do in our days in being bewitching; but there exists irrefragable proof of women, with the rack before their eyes, insisting upon their power of incantation, and, to the last agony of torture and of death, preserving this ruling passion—the monomania of insane vanity. Cannot the past *furore* of historians for slow poisoning, in many instances, receive the same explanation?

These cases of poisoning, requiring the most vigilance, and which are of most habitual occurrence, I have pointed out. For this purpose, and most others, the vegetable reign affords the most deadly implements. The aqua lauro-ceruis has given place, it is true, to a more dangerous and scientific form. Prussic acid is the more dangerous poi-

son; but opium, in its many forms, is the poison which the police should most watch. The sale of those poisons, of arsenic, and, above all, of ergot of rye—the constant implements to certain descriptions of murder—are far from being sufficiently restricted. The salts of lead, whether we judge of them by the palsy and other symptoms produced so insidiously in painters, and in persons who partake of them in wine, in whose adulteration it is so freely used; these salts, I repeat, are most dangerous, slow, and secret poisons.

As to my own opinion, after having wasted much time, that might have been better employed, in perusing the voluminous and dusty records of history, I utterly disbelieve in the ability of the utmost perversity to produce slow poisoning once in a thousand attempts. If I may be allowed a digression, and to speak rather figuratively, I should point out where, in my opinion, the only well-known slow-poisoners exist. I should show them to abide in St. Stephen's, at the Home-office, and in other places of power, where legislators repose over their laurels, as soon as indispensable business and their habitual efforts of ambition are achieved, and leave the poor population to die of effluvia (easily dispersed) in all parts of the metropolis, and in the great manufacturing towns. Could they see, as we have, all the mental agonies of fathers of families, deprived, by loathsome emanations, of the power to work for their starving families, they would feel that they had, perhaps, neglected their first duty? At least it is to be hoped that the clergy of England, who, by their mental acquirements, and by their virtues in other respects, beggar all power of eulogy, will not continue abettors of slow poisoning, by burial of corrupt bodies in churches, but return at last "earth to earth." Our Saviour, when he drove the money changers from the temple, punished a traffic far less nefarious than bartering for gold portions of the holy precincts, to enable dead pride to poison living imprudence*.

No. 41, King Street, Regent Street,
March 2, 1842.

* When I think that it is ten years since that, in a little work I wrote on the "Sources of Health and Diseases in Communities," I advocated these opinions—that this was done before me and since, by far more voluminous, and, above all, far more able and more generally read

GLOSSITIS PRODUCING SUP-
PURATION.

To the Editor of the Medical Gazette.

SIR,

THE notice of a case of glossitis terminating in suppuration, having been published in the MEDICAL GAZETTE, brought to my mind a similar case which I saw some time ago. The subject of it was a porter to a waggon office. At first he had a swelling in the tongue, which he attributed to an injury from the end of a tobacco pipe, but he stated that on a former occasion he had had a swelling in the same organ, which was opened. I ordered a few leeches and purgative medicines; but after three days he again came with the swelling so much increased that he could hardly speak, and was prevented from swallowing any thing but liquids. The swelling was deeply seated, and confined entirely to one side of the tongue; and as there appeared to be matter, I at once determined to make an opening. The danger which has ensued from wounding the principal artery of the tongue, shows that puncturing the tongue must be done with care and attention to the anatomy of the parts. The artery may be readily felt immediately outside the genio-hyo-glossus muscle; to avoid that it is necessary to make an incision a short distance external to that muscle, which occupies about a quarter of an inch on the outer side of the medial line on the upper surface. The puncture was made with a lancet, the man being desired, at the same time, to thrust his tongue against the instrument, in order that the mobility of the organ might be contracted. Some well-formed pus came from the opening, and he lost about eight ounces of blood. He felt much relieved by the operation. Matter continued to be discharged from the opening for a long period, but occasionally the orifice closed up. When that was

the case, it was dilated by a blunt instrument which afforded an exit to the collected pus. Sometimes this was of the most foetid nature possible. He repeated his visit at intervals, gradually extending the periods till after three or four months, when I lost sight of him altogether.

The reason to be assigned for the rarity of abscess in the tongue is, perhaps, the absence of much loose cellular tissue in the substance of that organ. In this case the situation of the abscess might be stated to be, probably, near the hyo-glossus, about which muscle more cellular tissue is to be found than perhaps in any other part of the tongue. The cause of this attack does not seem to be clear, for his account of the tobacco-pipe did not appear quite satisfactory, inasmuch as he had had a previous attack of the same complaint, nor did it appear to be caused by mercury or other medicines.—I am, sir,

Your obedient servant,

ALFRED SMEE.

No. 7, Finsbury Circus,
Feb. 12th, 1842.

CASE OF

FRACTURE OF BOTH THIGHS;

Two wounds near the chin; horizontal fracture of the central portion of the lower jaw; separation of the right superior maxilla from the left, and fracture of the posterior part of it; fracture of the zygomatic process, and copious vomiting of blood.

BY RICHARD GRIFFIN, M.R.C.S.,

Weymouth, late House Surgeon, &c. to the Norfolk and Norwich Hospital, Surgeon to the Great Hospital, and Honorary Surgeon to the Guardians' Dispensary, &c. &c. &c., Norwich.

(For the Medical Gazette.)

CAPTAIN T., ætat 28, was driving a phaeton down a steep hill, when the horse took fright, and, coming in contact with a miller's waggon, dashed the carriage to pieces, and he received the following injuries:—An oblique fracture of the left thigh, near the knee-joint, and a transverse one of the right thigh, about its centre. For these I placed him on a double-inclined bedstead, and treated him the usual way with perfect success. There were two wounds near the chin, each about two inches long, which required sutures to keep them in their proper position; and union took place by granulations in

authors—that in France every bad practice of the kind has long been abolished; the supineness of this country appears utterly inexplicable. The American editor of the piratical edition of my unpretending little work, says that my Hygiene is far more applicable to newly-formed states than to those of highly advanced civilization, like England. What would brother Jonathan say if he inspected the masses of corruption lying in the London church vaults, and the cemeteries rising in the main streets, *stratum super stratum* of human corpses poisoning the atmosphere?

the course of a fortnight, leaving, at the end of three months, only faint lines indicating their former situation. The foreign body, causing one of these wounds, penetrated into the mouth, and cut through the lower jaw, immediately beneath the incisor and canine teeth, completely separating a horizontal portion of it containing those teeth*, the only connecting medium left being a part of the gum in the inside. A medical gentleman present, considering its re-union improbable, proposed that the slight attachment should be cut through and the part removed; but this I declined, believing no harm would ensue in attempting to save it, though incalculable good would result, should it be successful. I therefore brought the part nearly into its natural position, and retained it there by wires fastened round the teeth contained in it, and to the adjoining fixed teeth. I found it impossible to get them to the same level as the others, the unnatural elevation being about one-eighth of an inch; but, in the course of three weeks, had the pleasure of observing them become gradually drawn down to their natural situation, by contraction of the granulations. The entire gum, on the outside, sloughed away, and caused the mouth to be very offensive, requiring chloride of lime gargles. At this time I doubted whether I should be enabled to save it; but, after three days, granulations began to spring up from the surface of the bone, and covered it. These I had some trouble to prevent adhering to the wound in the lip, which was avoided by keeping lint constantly inserted between them. At the end of three months no ossific union had taken place, the bond being, apparently ligamentous, thus permitting a slight motion. In every other

* In case the precise nature of this fracture be not understood, I wish you to suppose that the bone was sawed perpendicularly half through at the outer sides of the canine teeth, and, from these sections, the saw carried horizontally, so as to take away the upper half of the jaw, just below the fangs of the teeth. This will give an idea of the extent of the accident. A similar operation to the one I have imagined, was performed, some years since, at the Norfolk and Norwich Hospital, by J. G. Crosse, Esq., for osteo-sarcoma of the lower jaw, which, I need not say, displayed considerable talent on the part of the operator, and was of incalculable benefit to the patient, as, if the usual method of cutting quite through the bone had been adopted, the motions of the jaw would have been very imperfect, whereas, by this means, its natural powers were retained. I am aware this mode of operating is not always practicable where the disease is extensive.

respect the teeth were nearly as useful as before, and showed no disfigurement, or traces of so severe an accident. The superior maxilla of the right side was loose, having been separated at the sutures; so that by taking hold of the teeth inserted into it between the finger and thumb, the entire maxilla could be moved*; this, in three or four weeks, became firmly fixed, not having required any treatment. The posterior part of this maxilla, containing the three last teeth, was also fractured, the teeth, with the bone attached, dropping a quarter of an inch below those adjoining. I fixed them with wire to the firm teeth; but they, like those in the inferior maxilla, did not unite by bone, although they became tolerably firm, and allowed only a slight degree of motion. This fracture gave me considerable trouble, not only in fixing the teeth, which were so close together that the wire could only be passed between their necks, and required much perseverance to twist it effectually, but from two abscesses which formed, and continued to discharge for two months, one internally and the other externally, through the cheek. From the latter, several pieces of bone came away; and they ultimately healed, followed by the skin itself becoming attached to the bone, leaving a permanent depression, or dimple, in the cheek. Some of the front teeth of the upper jaw were also loosened, and an abscess formed connected with them, which discharged for some weeks, and several pieces of bone were detached. The zygomatic process of the right os malæ was fractured, and nature there perfected the cure, leaving a slight inequality only, to show the seat of the injury. Soon after the patient was placed in bed he three times vomited blood of a dark colour, to the extent of nearly two pints, mixed, in all probability, with fluids of which he had partaken during the day. This was followed by moaning and a frightful state of collapse, the wrist being almost pulseless, and he appeared to be rapidly sinking. I immediately gave him 60 drops of lau-

* This accident reminds me of a case of complete separation of the superior maxilla, in a boy of about ten years of age, living near Norwich, which arose from typhus fever, and caused sloughing of the cheek, accompanied by death of the bone, and its almost immediate separation, followed, of course, by much disfigurement of the face in after life, but with no other ill effects, as he appeared to enjoy good health.

danum in a small quantity of brandy and water, which I repeated three times in the course of two hours, when he began to rally, and he has since told me that each dose appeared to give him "fresh life." This state of collapse was brought on by the severity of the accident, conjoined to exposure in an open cart for some miles, on a very cold night. The blood vomited arose probably from the wounds in the mouth, and was swallowed, and not from injury of an internal part; had the latter been the cause, there would have been some marks of violence, or at least pain, denoting the injured part. This case is interesting, as it teaches us that wounds will frequently unite which are considered almost hopeless. I saw it still more strongly exemplified, some years since, at the Norfolk and Norwich Hospital, in a child whose leg was nearly cut off by a waggon passing over it; indeed, not more than a third of the muscle and integument remained that were not severed, the bones being both fractured. The late Mr. Martineau, whose case it was, immediately decided upon trying to save it, contrary to the opinion of all present, remarking, that as the patient was young and in good health, nature might effect a cure. And it was worth the attempt. In this case he was correct, as the child perfectly recovered.

CASE OF TRAUMATIC TETANUS.

BY GEORGE FIFE, M.D.

(For the *London Medical Gazette*.)

JAMES TROTTER, æt. 62, porter to a spirit merchant. About twelve days ago received a wound on his right leg, which he poulticed, but never laid himself up, not considering it of any importance. About 3 A.M., he awoke, and experienced some difficulty in swallowing, pain and stiffness of the neck, more especially the back part, little or no power of moving the jaw. In consequence of these symptoms increasing I was requested to visit him at half-past 2 P.M., when the above history of the case was elicited. I found him in a general and profuse perspiration; pulse frequent, small, and very compressible. The right arm and leg decidedly of lower temperature than the left. Teeth within quarter of an inch

of each other. The jaw perfectly immoveable. The bowels had been relieved yesterday morning, but not since. No difficulty in voiding urine. Countenance natural. Intellect perfect. On examining the leg, I found an angry-looking ulcer on the inner side of the tibia; in its centre a slough of about an inch in length, but evidently quite superficial, and surrounded to the extent of five or six inches in length and three or four in breadth by a deep red erythematic blush. The parts little, if at all, swollen, and but slightly painful.

Applic. Sinapism. nuchæ. et. inter scapulas.

℞ Hydrarg. Submur., gr. v.; Pulv. Jalapæ. gr. xv. fiat Pulv. stat. sumend.

℞ Camphoræ, gr. v.; Extr. Hyoscyami, gr. iij.; Pulv. Opii, gr. ij. M. fiat Bol. sum. ut primum alv. respond. et repet. hora somni.

Ungt. Creosot. Vulneri cum Catapl. Sem. Lini.

8½ P.M.—The jaw now perfectly closed and immoveable. In other respects the same. The bowels have not been moved. About a pint of urine passed, voluntarily and without difficulty. Pulse from 86 to 90, small and compressible. Pain in the occipital region of the head, extending down the neck and between the shoulders. Cannot swallow.

℞ Ol. Ricini, ℥iv.; Spt. Terebinth. ℥ij.; Tinct. Assafoetidæ, ℥j.; Habt. quartam partem cum ℥viiij.; Decoct. Avenæ Farinæ in Enemate quarta quaque hora.

11½ P.M.—Opisthotonos well marked. The head drawn powerfully backwards. Slight pain of head and neck. Deglutition impossible. Bowels moved by the enemata, which I directed to be repeated immediately. Urine voided abundantly and voluntarily. Intellect unimpaired. Cold clammy perspiration over the whole body. Respiration and heart's action alike feeble. Pulse 78, very small, but regular. Lower limbs quite cold. No convulsions. Appears to be rapidly sinking.

Repet. Enema. 2da quaque hora.

14th.—Died at 6 A.M. Shortly after my last visit, the most violent convulsions occurred. His intellect remaining perfect almost to the last.

The head was examined 29 hours after death. Scalp very thick, but exsanguineous, adhering very strongly at the posterior part of the head.

Dura mater very adherent to the skull, but perfectly natural in appearance.

Arachnoid membrane universally and intensely injected, presenting over the entire surface of the brain an uniform pink colour; its larger vessels beautifully arborescent. Evident effusion of lymph between the arachnoid and pia mater, more especially between the convolutions.

Pia mater very vascular where it dips into the interstices of the convolutions.

On removing the brain for examination, a considerable quantity of very fluid blood and serum flowed from its base and the spinal canal; and from the right vertebral artery pale bloody serum continued to flow for some minutes.

Brain.—On an horizontal section being made, it appeared less vascular than even a healthy brain, very few of the vascular spots being met with on the cut surfaces. In consistence, it was quite natural. On cutting into the ventricles there was a little serum, but of trifling amount. Both choroid plexuses very pale and flaccid, and containing several small hydatids, and what may be termed miliary tubercles. Corpora striata quite healthy, both in colour and consistence. Immediately behind the foramen of Monro, a patch of vascularity was noticed, about the size of a sixpence, but quite superficial.

At the base of the brain, and involving the crura cerebri, there was a body, not dissimilar in colour from a common foul ulcer, and in consistence like partially softened tubercle. This morbid production was in size equal to an ordinary hazel-nut. The cerebellum and its envelopes presented, externally, the same characters as those above described, in connection with the cerebrum. The cortical substance of the left lobe was highly injected; the medullary portion healthy, both in colour and consistence. On a section of the right lobe being made, the cortical substance presented the same appearance of vascularity as was met with in the left. In the centre of the medullary portion, a membranous patch, resembling that which occurs where absorption of a coagulum has taken place, was observed. Its extent was about an inch.

In the medulla oblongata, though most carefully examined, nothing un-

sual was detected. Circumstances prevented the examination being prosecuted further.

REMARKS.—In the first place, I have to state two or three facts, which must necessarily exert some influence in the formation of any judgment on the origin, progress, treatment, and termination of the case; and with some of which I only became acquainted subsequent to the poor man's death. With several of the appearances met with on dissection, it is obvious that serious disease of the nervous centre had been going on for some time previous to his last fatal attack. It also appears that such morbid condition must have acted a powerful part in predisposing his system to the effects of any cause capable of producing undue excitement. From his vocation he had but too limited access to the gratification of any love of ardent spirits, and against such temptation he was not proof; but, on the contrary, had yielded to a considerable extent. I have also learnt, that for above six months he was subject to occasional attacks of vertigo, stupor, and loss of memory—in regard to the last, to such an extent, as not even to recollect what his occupation of the previous day had been, and where the office was to which he had then to go. Subsequent to the receipt of the injury, which I cannot but regard as the immediate cause of the disease which destroyed him, he had almost, if not entirely abstained, from the use of stimulants; such abstinence also had no small share, in my estimation, in the production of the nervous derangement which ensued. Had there been no more serious lesion of the brain, it is more than probable that delirium tremens would have occurred, The lesions to which I would now more particularly advert, are the hydatids and tubercular formations met with in both choroid plexuses. The patch of vascularity behind the foramen of Monro, and the manifest morbid change of structure about the crura cerebri, none of which had the appearance of recent date: to these may be added the appearance met with in cerebellum. On some, or all, of these alterations, we may legitimately suppose the symptoms above enumerated, as antecedent to the attack of tetanus, to have depended.

As to the treatment, I am well

aware that to many persons the means adopted may at first sight appear inadequate to the exigency of the case. Suffice it to say, that I do not believe that, with the organic complications described, any means could have altered the event. When I first saw him, I despaired of any other result, from the rapid course which the disease had even then run, and from the very low state of the vital powers. As to blood-letting generally, it was decidedly contra-indicated, not only from the then state of the circulation, but still more by the previous habits of the patient. The only result to be anticipated from it would, so far as my judgment goes, have been an abbreviation of the poor fellow's sufferings.

Tobacco has been highly, and I believe justly, extolled in such cases. What would have been its effect in this? So far as I can form an opinion, the vital power would have been prostrated a little sooner.

It is unnecessary to enter further upon the consideration of the treatment than merely to observe, that twelve hours had elapsed previous to my being called in; and that then, from the difficulty of swallowing, the first powder ordered was with the greatest annoyance administered; that subsequent to its being taken, deglutition was impossible. The enemata then appeared to be the only means of doing any good; but, as the result has proved, they were equally useless. In fine, it appears to have been one of those cases in which there was no time for treatment. In conclusion I have merely to observe that, although it does not give us any additional information on the true pathology of tetanus, it goes far to invalidate the idea of that disease being exclusively referable to the spinal system, as evidenced by the perfectly natural condition of the medulla oblongata, which, according to the spinal pathology of tetanus, should have been considerably involved. This fact, added to the pain experienced during life at the back of the head, went far to deter me from urging on my friends, Mr. Vaughan and Mr. Potter, the examination of the cervical portion of the spine and its nerves. The separation was made as far down the canal as possible; and on introducing the finger into it, no change of structure could be discerned. As to

the injected state of the tunica arachnoidea, it was only to be looked for where violent convulsions had persisted for six hours. With regard to the deposition of lymph in the interstices of the convolutions, I would feel strongly disposed to attribute it to a degree of subacute meningitis going on for some time. This opinion seems to be corroborated by the symptoms above mentioned, the habits of the man, and, farther, by analogy derived from but too many cases of insanity, where, on examination, the arachnoid has been found thickened, and lymph effused between it and the pia mater to such an extent as to be organized and to form adhesion, though during life no manifestation of physical disease ever appeared*.

It only remains for me to express my deep obligation to my friends, Mr. Vaughan and Mr. Potter, for their valuable assistance at the examination.

Newcastle-upon Tyne, March, 1842.

ANALYSES AND NOTICES OF BOOKS.

“L'Auteur se tue à allonger ce que le lecteur se tue à abrégé.”—D'ALEMBERT.

Letter to the Right Honourable George, Earl of Aberdeen, K.T., &c. &c., Principal Secretary of State for Foreign Affairs, Chancellor of the University and King's College, Aberdeen, on the State of the Schools of Chemistry in the United Kingdom. By WM. GREGORY, M.D. F.R.S.E. M.R.A.I. Professor of Medicine and Chemistry in the University and King's College, Aberdeen.

THE object of this letter is to call the attention of the British public, and more especially of the Government, to the very defective means of instruction in the practice of chemistry, which are accessible to Her Majesty's subjects.

For illustration of the vastly important bearings which the science of chemistry has on our national prosperity, the author cites the example of sulphuric acid, and traces the improvements which have taken place in its

* In a conversation with my friend, Dr. Mackintosh of the Asylum here (a gentleman of very extensive experience in the treatment of the insane), I was happy to find this argument fully borne out. I also remember that many years ago my highly esteemed friend, Prof. Macrobain, of Aberdeen, made the same statement at a meeting of the Medical and Surgical Society in this town.

manufacture, the causes which have led to them, and the very remarkable results which gradually flowed from its increased supply at a low price. Our limits prevent us from following the learned professor into the interesting and instructive details of the progress of these improvements, and the immense influence which they have had on the quality and price of glass and soap—on the means of bleaching which we now command—on the refinement and purification of silver, &c. We pass on, therefore, at once to the more immediate subject of the letter—the want of means of instruction experienced in this country by those who wish to make chemistry their profession, and the remedy proposed by the author. He gives a very accurate and well-drawn description of the laboratory and apparatus necessary for pursuing the science, and classifies the absolutely necessary expenses under three heads. “1st. original outlay in building and furnishing the laboratory. 2nd. The annual outlay for materials for the wear and tear of materials, and for fuel. 3rd. The salaries of an assistant and servant.” Now, as in this country, the two latter items, if not all three, are supplied by the teacher, there is but one way in which he can avoid a heavy loss, and that is by charging a high fee for laboratory practice. Accordingly, to take London for example, the fee for a six months’ course is generally about fifty pounds; a charge evidently far beyond the means of most students, especially of those who are most likely to be diligent in their studies. The consequence is that very few men study practical chemistry in such a manner as to derive much benefit from it. Very different is the system of instruction pursued at the University of Giessen, which Professor Gregory has recently had an opportunity of inquiring into in person; and some such plan he would introduce into this country.

“Let us inquire, therefore, what there is in the system adopted at Giessen to account for results so different from those which have flowed from the system followed in this and some other countries.” . . . “The principle on which the school of practical chemistry at Giessen is founded is that of enabling the professor to open his laboratory, provided as it is with every

thing necessary for research, on terms which allow almost every student with ease to avail himself of the opportunity.” “The professor has a handsome salary and a free house. The laboratory has been built, on plans approved by him, at the expense of his government; and the entire cost, including all furnaces, sand baths, water pipes, and the numerous indispensable fixtures of a laboratory, amounted to 13,000 florins, or about £1120. sterling. Considering its extent and completeness, and the large number of students it can accommodate, this sum must be regarded as very small; and it is certain that more has often been expended in the construction of far inferior laboratories. In many of our universities I have no doubt that a much smaller sum, judiciously expended in altering, enlarging, or improving the existing laboratories, would suffice to afford ample accommodation for such a number of students as might be expected to enter them. On an average, £1000. might be assumed to be sufficient, making allowance for the higher price in this country both of labour and building materials.”

“The next point in the system adopted at Giessen is the annual allowance for laboratory expenses. The annual expense under this head is about £130, which is found sufficient to defray the cost of the lectures and laboratory. When the working students do not exceed fifteen, it is paid by the government.” “The government also pays the salaries of an assistant and a servant. Two or more assistants are necessary when the working pupils are numerous: but at present I cannot say whether the second assistant is paid by the government or the professor. I know that a third, when required, is paid by the professor.”

“Each student provides himself, from a stock kept by the servant, and sold at prime cost, with a certain quantity of apparatus, such as spirit lamp, test tubes, combustion tubes for analysis, precipitating jars, evaporating basins, funnels, &c. These articles belong to himself exclusively, and remain at that part of the table which is marked off for him. . . . When a student’s course is finished, he either takes with him the apparatus he has purchased, or disposes of it to a new comer. Many of the students take home with

them complete sets of portable apparatus, of which they have learned the use."

And now as to the scale of fees, which, according to this new system, should be demanded of pupils in this country.

"Taking into account the usual rate of fees in this country, and the importance of making practical chemistry as accessible as may be, it appears desirable that the teacher should be enabled to receive working pupils at £1. 1s. weekly, for a course of six months; or, at all events, at not more than £1. 10s. weekly. A full course of six days weekly, for six months, would thus cost the student, in the first case, £6. 6s.; in the second, £9."

Here we must bring to conclusion our brief and imperfect notice of Professor Gregory's pamphlet, an attentive perusal of which we strongly recommend to all who are interested in the advancement of chemical knowledge in this country. The system here advocated has already been productive of important discoveries, for to the school of Giessen alone "we are indebted for a very large proportion of those researches which have advanced organic chemistry to its present very flourishing condition:" and the whole subject is one well worthy of the attention of the government, particularly at this time, when it is admitted on all hands, that our manufacturers have such difficulty in competing with those of foreign countries.

MEDICAL GAZETTE.

Friday, March 18, 1842.

"Licet omnibus, licet etiam mihi, dignitatem *Artis Medicæ* tueri; potestas modo veniendi in publicum sit, dicendi periculum non recuso."

CICERO.

PROVINCIAL MEDICAL SCHOOLS.

It is not our present intention to institute a comparison between the respective merits of the different provincial schools, but rather to consider their general influence upon medical science, and the advantages they seem

to offer. By their number they already hold an important place among the medical institutions of the day, and from the countenance given them by the different Examining Boards, many of whom admit their certificates, they promise to become still more numerous, and to embrace a larger proportion of students. London ever has been, and while it retains its present rank and population ever must be, the great emporium of medical science. The facilities of information, and the opportunities of instruction afforded by it cannot be equalled in any provincial town. Its hospitals and museums, the great fountains of our knowledge, are unrivalled; and its schools must and ought to include a greater number of students than those of any other place: but it does not thence follow that they are all to be centred in it; though the great one, it is by no means the only source from which knowledge is to be derived. The large provincial towns of this kingdom, with their extensive populations, their hospitals, and their museums, afford an abundant field for observation and instruction, one which is not to be neglected, and which may be turned to good account for the instruction of students. The space of investigation may be thus widened; and if men be withdrawn from the metropolitan schools, they will leave in them a number smaller indeed, yet for that very reason, better able to profit by the advantages afforded. How much better, for instance, would it be for all parties (except, we grant, for the pockets of the surgeons and lecturers) if the crowds attending in the hospital wards in London, of whom many can scarce catch a glimpse at the patient, were disseminated more equally through the large provincial hospitals. A smaller range of cases, it is true, are in a given time presented in the latter; but it is not the number seen, so much

as the few attentively examined and watched, that prove of permanent value to the observer.

It is in the hospital practice, if well regulated, that provincial schools appear to afford the greatest advantage, yet it is not the only one, for the same argument holds good with regard to the dissecting rooms. If all come up to London in quest of anatomical knowledge, the inconvenience arising from a limited supply of subjects becomes a serious and important evil; whereas by the institution of schools at Birmingham, Manchester, and other large towns, fresh resources derivable from these places are opened, the demand in the metropolis is diminished, and the general mass of students in both situations is benefited.

With regard to attendance on lectures, it is true a large as well as a small number can equally profit by the information given; and not only is the stimulus of competition greater in the former, but there is stronger inducement to the lecturer to spend more time in preparing and investigating his subject. Yet these advantages may be more than compensated to the smaller class, by each student being under the immediate eye of the teacher, who is better capable of assisting, advising, and observing them individually, and of becoming interested in their welfare and prospects. In a large body, this desirable influence is of necessity so greatly diminished, that, as we have often said, nothing but a system of collegiate tutorship can at all supply its deficiency.

But the establishment of provincial schools is not to be considered solely in reference to the students attending them; it could not fail to have an influence, and that an important one, upon those who undertook the office of teachers in them, and who would generally consist of the practitioners resid-

ing in the place. To instruct others we must be informed ourselves. To perform this part creditably, the lecturer must possess a competent knowledge of the scientific as well as of the practical part of his subject. Amid the labours necessarily attendant on the duties of the medical man, the former is but too apt to be neglected, and lightly esteemed, as bearing but indirectly upon the subjects of his attention. This is an almost necessary and constant, though we deem it an unfortunate, result, as nothing tends more strongly to the attainment of acute discrimination of disease and sound views of treatment, than an acquaintance with the science of medicine. The want of this knowledge appears in the present day one of the greatest obstacles to the advancement of the practical utility of our art. A public school offers the greatest inducement to the cultivation of medical science, being a sort of focus in which it is nurtured, and from which it emanates; nor can any thing tend more powerfully to its general diffusion and advancement, than the establishment of these institutions in the country; for the larger the number of labourers employed in this field, the greater is the improvement to be anticipated from their efforts; while the extension of pathological examinations, the formation of museums, the recorded facts and better observation of hospital practice,—almost necessary accompaniments of schools,—could not but give great impetus to the advancement of medical knowledge.

It appears, then, that the existence of provincial schools is calculated both to promote the advance of medical science, to assist in its diffusion amongst the practitioners of the country, and to prove advantageous to the student; and we cannot but approve of those arrangements of our Examining Boards, which recognise certificates obtained

from them. At the same time it would perhaps be going too far to coincide in opinion with those persons who would confine the course of any student's education entirely to them, excluding altogether the necessity of a certain period of attendance in London, Edinburgh, Dublin, or some of the larger continental schools. We think it desirable that the advantages accruing from these should, if possible, for a certain period be enjoyed; the student by these means may obtain an acquaintance with the opinions and practice of the leading physicians and surgeons of the day, which his previously obtained knowledge enables him to appreciate and profit by.

The old and objectionable system of apprenticeship, under which the five first years of medical education were too generally doomed to be spent in the manual drudgery of compounding and dispensing, without instruction in any branch of knowledge, and at the end of which the student was nearly as ignorant as at the commencement, and had perhaps acquired habits of idleness and irregularity, is now happily giving way; and, thanks to the College of Surgeons, we may trust ere long will die a natural death. How far better will it be for a portion at least of this time to be spent at a provincial school, where the course of study is directed, the time regulated, and an opportunity for observation afforded. The preliminaries of medical education would, under this system, be acquired at an earlier period, and the mind sooner fitted for the study of disease, and the consideration of other important subjects.

MEDICAL REFORM.—QUACKERY.

To the Editor of the Medical Gazette.

SIR,

I HAVE seen with much surprise, that the proposed measures for medical reform should have been met by objections against that part of them which appears to me to be the wisest, viz. the discouragement of quackery.

Some seem to imagine that a legal enactment might be made to meet the difficulty, in opposition to the strong desire of mankind for the "omne ignotum." Let us examine the point; and before entering on the question of how far legislative authority, in a free kingdom should be exercised, let us for a moment see how it acted under an absolute government.

The College of Physicians was instituted to approve English physicians, and had a power to fine and imprison *quacks*.

Instituted by a tolerably absolute sovereign, Henry VIII., the College exercised this right in the reign of another tolerably absolute sovereign, Queen Mary, and committed to prison several persons for practising physic without examination, *i.e.* for quackery.

The imprisoned petitioned; the favourite Cardinal Pole interested himself for them; but the College resisted, and they died in prison.

Without fixing our attention on so shocking and dreadful a conclusion, we will ask, did such a terrible authority, so terribly exercised, succeed? No. We find in the records of the period, constant fines, constant imprisonments; but the hydra head grew twofold for every endeavour to destroy it. Wearied out by violence, without effect, the College endeavoured to attack quackery in its stronghold, among the great; and we find the College condemning, and afterwards petitioning against the quacks, mountebanks, &c. in the train of the Queen of Bohemia, in the time of Charles I., and without effect, although the king was one of the greatest upholders of science and the liberal arts, and the patron of the celebrated Harvey. Did all these prosecutions, then, under an arbitrary government, prevent under the same government the same abuses? Certainly not. Neither in this, nor in any other country, have penal enactments

ever been of much use. The system of the French government, before the revolution, in reference to a part of the question, was a very wise one. Whenever any remedy had obtained great celebrity, a commission was granted to inquire into the truth of the facts alleged; and if found to be true, the government purchased the secret, and published it for the good of mankind. Such was the case with ipecacuanha, and Madame Nouffer's remedy for tapeworm, the root of the male fern, &c. And while on this subject, I cannot omit to say, that some of our most useful medicines have been similarly the result of unlicensed, *i. e.* quack practitioners, James' Powder, Dovers' Powder, Ward's Paste, &c. But if penal enactments were useless in arbitrary governments, what shall we say of them in free governments? Has the experience of late years on animal magnetism given any reason to believe that educated men would combine to exclude unrecognised or unpermitted remedies. And must we not begin at first principles? Are there not men of great reputation, who act in defiance of established feeling; at least is not a portion of this true; and then how is it possible for government to legislate on such a subject?

The late Dr. Gregory, of Edinburgh, a most regular physician, and a man of strong parts, used to say "Gentlemen, the boast of a free-born Englishman is the right to go to the devil his own way."

In our own time we have known a great English nobleman, of that character which is called of the *shrewdest sense*, who carried a loadstone in his pocket to keep away rheumatism; would it have been right, would it have been possible, to attach a penalty to this absurd act; if it were, was the penalty to be levied on the vender or on the loadstone?

It is in the remembrance of many when an inferior painter set up in London to cure consumption and gout. Every one knows that the former pretension rendered him so famous, that at last the ignorant application of a good principle (counter irritation), brought him amenable to the criminal law of the land.

His second pretension, to cure gout, exhibited the singular spectacle of a cauldron of hot water, with tubes

attached to it, at the extremity of each of which was affixed a nobleman, inhaling the steam, with much faith and great perspiration, the whole having no unfaithful resemblance to what might have been expected had the three noble individuals been in the act of being suckled by the Invisible Girl!

All this was in itself very absurd, but the consequences were afflicting. After the person in question had been prosecuted for murder, and fined under a verdict of manslaughter, for the death of Miss Cashin, what occurred? Of course he lost his business, and people began to look, at least, with suspicion upon his practice? Not at all. A second unhappy case occurred—a second prosecution—a second fine. His practice became greater than it had ever been. Among the nobility who supported him, there was an *esprit de corps* to sustain him; and when he died, it is said an Irish peer and peeress purchased the secret of his lotion, and put forward a regular graduate on their account; but in the hands of a regular graduate it failed to create even momentary attention. So much for the penal laws in physic.

But with such and even stronger examples before their eyes, should any government be so blind as to attempt to carry through parliament penal restrictions, we confess we are not philosophers enough not to wish to be present when the Speaker of the House of Commons proposes a penal enactment which would involve Mr. Whitelaw or the countenances of several honourable members, who have been snatched from the jaws of death by the globules of M. Hahnemann, preserved, as they *notoriously* have been, *by infinitely small doses of poison*, and the abstinence from eating asparagus. In the Upper House are there none who would plead God and his conscience (as James II. did at the debate on the exclusion bill) to except *his* faith in the Rev. Dr. Willis Moseley and his short cut to curing insanity?

If a penal statute be introduced, it must be on the consumer, not on the capitalist.

But we have an example how utterly unnecessary penal laws are, when *encouragement is held out* to the regularly educated. The College of Surgeons have no penal enactments—they can prevent no man from practising sur-

gery—they can compel no man to be examined; but young men wisely enough sought the tribunal, because they would not have been qualified without it for public favour.

The government, sir, have acted most wisely; all public duties are to be irrevocably attached to the educated practitioner, and that to an extent which must make regular education not only desirable but a necessary qualification. The effect of this will be to protect the physician, surgeon, and apothecary, more than they have been protected, and to raise the reputation, character, and emoluments of our profession higher than they have ever been raised.

Such is the opinion of one whose opportunities of observing have been long and numerous, hence he signs himself

AN OBSERVER.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

DR. WILLIAMS IN THE CHAIR.

March 8, 1842.

On a Variety of False Aneurism. By R. LISTON, Esq. F.R.S. Surgeon to University College Hospital.

THE author's attention has lately been particularly directed to the subject of the communication between large blood vessels and the cysts of abscesses, in consequence of having lately met with a remarkable case, in which the carotid artery opened into a large abscess in the neck.

G. A., æt. 9, suffered from severe illness about six years ago, by which he was left in a very reduced state. Two months back, he had a violent cough, accompanied with fever, and at this time a *small swelling* was observed in the neck, immediately below the right ear. This swelling increased slowly until within three or four days of his reception into the North London Hospital, on the 20th of October, when its progress had become rapid and irregular. At the date mentioned, there was observed a tumor extending from the angle of the jaw on the right side, downwards to within an inch of the clavicle, backwards to the posterior edge of the sterno-mastoid muscle which it raised, and forwards to about midway between the angle of the jaw and chin. The tumor farther projected inwards into the mouth between the arches of the palate, and materially impeded both deglutition and respiration. Indistinct fluctuation could be distinctly felt in the tumor, and there was slight pulsation in it, immediately over the

course of the carotid artery; but on grasping the tumor, and examining it from the mouth, no pulsation could be felt. A small puncture was made into the tumor under the impression that it contained matter, but a gush of arterial blood followed the bistoury, and about four ounces were lost in a few seconds. The puncture was readily closed by hare-lip pins and twisted sutures, and the bleeding checked. I resolved on tying the carotid artery next day.

No hæmorrhage occurred in the course of the ensuing night, but the tumor was tense, and had been covered with a cold lotion. On proceeding to the operation, an incision, about an inch and a half in length, was made transversely over the sternal end of the clavicle, and another upwards and at right angles to the first, over and in line of the trachea; by which an angular flap was formed and turned upwards and outwards. The sternal attachment of the sterno-mastoid muscle being exposed was cut through; the sterno-hyoideus and sterno-thyroideus were next exposed after some dissection, and divided; at length the carotid artery was exposed a little above its origin from the innominate, and tied. The whole difficulty of the operation arose from the necessary smallness of the external incision. The tumor projected so low down into the neck, that it was impossible to procure space by extending the incision upwards, and the artery which lay at a great distance from the surface had to be sought for at the bottom of a small hole. The flap was laid down, and retained by some isinglass plaster. The boy complained very little after the operation, the swelling became smaller and firmer, and the movements of the jaw, which before were much restricted, were now more free and less painful. The pupil of the right eye, too, which had been contracted and only partially sensible to light, was now restored to its proper functions. The patient slept soundly through the night following the operation.

The pins and twisted sutures were removed on the 25th, and strips of isinglass plaster applied in stead. On the 28th, some grumous blood escaped from the opening in the tumor. The patient was cheerful and happy. Things went on prosperously; the tumor shrinking in size, till the afternoon of November 3d, when a sudden gust of arterial blood took place from the wound in the fore part of the neck, the ligature being still firm. The hæmorrhage was arrested for the moment by plugging the wound with lint, but a considerable quantity of blood was lost. Hæmorrhage returned six times after this, and the patient finally sank into a state of collapse, 48 hours after the first occurrence of the bleeding.

On examination, the ligature was found to

have been close to the origin of the carotid from the innominate. It was not completely separated; a small portion of the external side of the artery still remaining entire. There had been no attempt at the formation of a clot, or if any had formed it must have been expressed with the blood.

The appearance of the tumor, both externally and internally, are most minutely described by the author, as are also the relation of the vessels to the cyst, and the condition of the opening of communication between the carotid artery and the latter. It would be impossible to do justice to these details in the space of a short abstract; suffice it to say, that the author feels himself warranted in deducing from the examination of the parts the conclusion, that the disease was originally a chronic abscess of a scrofulous character, and that the opening into the artery was consequent upon ulceration from without.

The preparation of the parts, together with two drawings made from them in a recent state, were exhibited to the meeting.

The author relates, in confirmation of his views, the details of three other cases, derived from the practice of himself and others, in which large arteries in the neighbourhood of abscesses were opened by ulceration. Our space will not allow us to refer to these in detail.

Dr. James Johnson and several other members expressed their complete satisfaction at the explanation of the nature of the case afforded by Mr. Liston's narrative.

Mr. Partridge mentioned three cases of aneurism occurring in subjects between 7 and 11 years old. In one of these, an aneurism consisting of dilatation of all the coats of the artery at the bifurcation of the carotid, he had, himself, made a preparation for Mr. Hodgson. Another case had been related to him by Mr. Hodgson, of aneurism of the brachial artery in a child 9 years old. And in the third case, the patient was still living with a swelling in the course of the common carotid, which diminished by pressure in the trunk of the vessel, and presented the ordinary *bruit-de-soufflet* synchronous with the contraction of the heart.

Dr. Johnson said that the only difficulty in the case lay in the accounting for pus not being discharged when the puncture was first made. If there had been an abscess it was not easy to say why the pus was not discernible.

Mr. Liston said that pus might probably have been discerned by the microscope, but that in a gush of arterial blood, it was not possible to discover the mixture of a small quantity of yellow fluid.

Some discussion took place between Mr. Dalrymple, Mr. Solly, and others, respecting

the value of the *bruit-de-soufflet* as a sign of aneurism, all agreeing that its presence was neither to be depended upon as an indication that aneurism existed, nor its absence as a proof of the absence of that disease.

Mr. Adams expressed the opinion, that it would have been safer had the tumor been opened by a grooved needle.

Mr. Dalrymple said that the opening with the small needle which had been employed was equally safe: whatever means had been adopted the ligature of the artery must ultimately have been a necessary measure.

Dr. Budd mentioned the close relation between the present case and those which are not uncommon in medical practice, where a tuberculous cavity spreads into a branch of the pulmonary artery, and death ensues by speedy hæmorrhage. He related also a case of the kind which had recently occurred under his care.

There was also some discussion between Mr. Adams and others, respecting the influence of the superior cervical ganglion upon the contractions of the iris.

MEDICAL MENDICANCY.

To the Editor of the Medical Gazette.

SIR,

AT the monthly meeting of a few friends who form a club for the circulation of medical books, the conversation, last night, turned upon the annoyances experienced from the solicitations of distressed members of the profession, or of their families. All present had cases in point, and from the various opinions expressed, might be gathered the general feeling on the painful subject of medical mendicancy.

Some treat all such applications as impertinent intrusions; others gratify injudiciously their benevolent feelings; others yield to importunity what they deny to a first application. A few investigate the cases thoroughly, but finding the distress in some feigned or deserved, in others wholly beyond their means of relief, they shrink from so difficult a task, and gradually acquire the habit of shutting their ears and their hearts to all tales of distress. The rich or generous are apt to give, and the needy or unjust to refuse indiscriminately; while both are dissatisfied with their own and the other's conduct.

The evil of this state of things being so generally felt, and so loudly complained of, it is the duty and interest of all who perceive and suffer from it, to inquire diligently what, if any, means exist amongst members of the profession for mutual or charitable relief.

It will be found that, besides the charitable

fund of the British Medical Association, which does much in proportion to its limited means and recent formation, two societies have long been established in London for these laudable purposes. These are the Medical Benevolent Society, and the Society for Relief of Widows and Orphans of Medical Men in London and its Vicinity, the former established in *, for the relief of decayed or distressed medical men, the other in 1788 for that of their bereaved families; the benefits of each being confined, of course, to its members.

These societies are, I believe, in a highly efficient state; but surely they are not sufficiently known, or they would be more generally supported.

As mere channels for regular, judicious, and systematic benevolence, they must be invaluable to all who feel it a duty or a privilege to give to their needy brethren of their abundance or of their competency. As means of insurance against unexpected, but not improbable reverses, they must be highly desirable to many; and the annual subscription, one guinea to the Medical Benevolent, and two guineas to the Widows, &c. is surely moderate enough for most.

On the whole, it is difficult to conceive any very good reason why every member of our profession should not be found in the lists of these two societies. Yet out of the 1600 medical practitioners of the metropolis, the Society for Relief of Widows and Orphans numbers less than 350, and the Medical Benevolent less than 150 members.

To both every qualified practitioner of good character is eligible. In both the admission of members and the election of officers are by ballot; and the annual lists of directors, &c. prove that in both the franchise is judiciously exercised.

My belief that the welfare and respectability of the profession, leading objects of your valuable journal, may be much promoted by a great extension of these and similar societies, will, I am sure, be a sufficient apology for this trespass on your attention.

I am, sir,

Your obedient servant,

PUBLICUS.

May Fair, March 4, 1842.

SIR JAMES GRAHAM'S BILL.

To the Editor of the Medical Gazette.

SIR,

As you seem to be somewhat in the secret as to the intended provisions of Sir James Graham's Medical Bill, will you oblige me and others by answering the following queries.

1. Is it proposed that the members of the medical council shall be chosen exclusively from the Colleges of Physicians and Surgeons, or from those bodies, and the Society of Apothecaries?

2. Are pure surgeons to escape, as heretofore, any examination into the amount of their medical knowledge? (Will any member of the Council of the College of Surgeons favour his professional brethren with a definition of what is meant by a practice exclusively surgical?)

3. Will it, under the projected ministerial arrangement, be compulsory on the general practitioner to hold both the diploma of the College of Surgeons and the license of the Society of Apothecaries, or are mere surgeons still to act as general medical practitioners, and mere apothecaries to be permitted to dub themselves "surgeons," as they do at present?

By answering these questions, you will oblige, sir,

Your constant reader,

CIVIS MEDICUS.

Newcastle-on Tyne, Feb. 22, 1842.

[Can any of our readers help us?]

EXAMINERS.—LONDON UNIVERSITY.

To the Editor of the Medical Gazette.

SIR,

I OBSERVED in the advertising sheet of the last number of your journal a notice of the examiners in the University of London; and on looking over it I was surprised to find that an omission was made of all those examiners who are members of the senate, except the Rev. Dr. Jerrard and Dr. Roget, who have apparently resigned, as their departments are declared vacant. Thus, Messrs. Bacot, Billing, Kiernan, Sir Stephen Hammick, and Professor Henslow, are retained as examiners without re-election; and their places are rendered permanent until they are pleased to resign them. By this proceeding all who may wish to become candidates for the examinerships they hold are prevented from proposing themselves. It is some time since I saw the charter of the University; but, if I am not mistaken, the re-appointment without re-election is contrary both to the letter and spirit of the charter. Moreover, it is unjust to those examiners who have to submit themselves to an annual election. As a graduate of the University I enter my protest against what appears to me to be an unjust preference of those examiners who are members of the senate. Much has been said of the iniquities of the College of Physicians, and other

* We cannot make out the date.—ED. GAZ.

Tory corporations, but this proceeding of the Whig University equals any of the misdemeanors that have been charged on the College.—I am, sir,
Your obedient servant,
PHILIP B. AYRES, M.D., Lond.
Thame, March 12, 1842.

BELLINGHAM AND MITCHELL'S
MATERIA MEDICA.

To the Editor of the Medical Gazette.
SIR,
A most malignant and miserable review of Drs. Bellingham and Mitchell's *Materia Medica*, was surreptitiously foisted into the Dublin Journal of Medical Science for this month.
The editor of that journal is most desirous, by every means in his power, to neutralise its malicious and mischievous tendency, and regrets exceedingly that his journal should have been made a tool of for such a purpose.
We take the liberty of apprising you of the above circumstance, as a copy of the work was sent to you for review, and we have been given to understand that attempts will be made to introduce a similar article into some other of the medical journals.
We have the honour to be, sir,
Your obedient servants,
FANNIN & Co.
Dublin, March 7, 1842.

RECEIVED FOR REVIEW.
A Dispensatory, or Commentary on the Pharmacopœias of Great Britain, &c. By Robert Christison, M.D. F.R.S. &c.
Mr. Frankum's Discourse on the Enlarged and Pendulous Abdomen; showing it to be a visceral affection, attended with important consequences in the human economy, &c. &c. Second edition,
Dr. Monro on the Anatomy of the Urinary Bladder and Perinæum of the Male.
Principles of Human Physiology, with their chief applications to Pathology, Hygiène, and Forensic Medicine. Especially designed for the Use of Students. By William B. Carpenter, M.D., Lecturer on Physiology in the Bristol Medical School. London, 1842.

ROYAL COLLEGE OF SURGEONS.
LIST OF GENTLEMEN ADMITTED MEMBERS.
Friday, March 11, 1842.
J. T. Kial.—P. Oates.—E. Jones.—R. S. Carter.—J. H. Gray.—T. Ager.—F. A. Tipple.—C. Hall.—D. Stone.—N. J. Watson.—J. T. Jackson.

APOTHECARIÆS' HALL.
LIST OF GENTLEMEN WHO HAVE RECEIVED CERTIFICATES.
Thursday, March 3, 1842.
J. Lodge, Astrigge. — W. Elliott, Sowerby Bridge. — J. G. Barrett, Bath. — C. Kitching, London.—Duckworth Du Pré.

A TABLE OF MORTALITY FOR THE
METROPOLIS,

Shewing the number of deaths from all causes registered in the week ending Saturday, March 5, 1842.

Small Pox	4
Measles	19
Scarlatina	7
Hooping Cough	54
Croup	9
Thrush	5
Diarrhœa	7
Dysentery	3
Cholera	0
Influenza.....	4
Typhus	23
Erysipelas	6
Syphilis	0
Hydrophobia.....	0
Diseases of the Brain, Nerves, and Senses ..	158
Diseases of the Lungs, and other Organs of Respiration.....	328
Diseases of the Heart and Blood-vessels	19
Diseases of the Stomach, Liver, and other Organs of Digestion	65
Diseases of the Kidneys, &c.....	5
Childbed	4
Ovarian Dropsy	0
Disease of Uterus, &c.	2
Rheumatism	2
Diseases of Joints, &c.	4
Ulcer	3
Fistula	0
Diseases of Skin, &c.....	0
Diseases of Uncertain Seat	126
Old Age or Natural Decay.....	67
Deaths by Violence, Privation, or Intemperance	31
Causes not specified	2
Deaths from all Causes	957

METEOROLOGICAL JOURNAL.
Kept at EDMONTON, Latitude 51° 37' 32" N.
Longitude 6° 3' 51" W. of Greenwich.
March THERMOMETER. BAROMETER.
Wednesday 9 from 32 to 46 29·53 to 29·09
Thursday . 10 34 46 29·28 29·92
Friday . . 11 29 52 29·95 29·75
Saturday . 12 29 50 29·94 29·92
Sunday . . 13 37 48 29·83 30·03
Monday . . 14 35 48 30·12 30·20
Tuesday . 15 42 52 30·24 30·25
Wind, W. and S.W.
On the 9th, morning clear, otherwise overcast; rain in the morning and evening; wind boisterous. The 10th, generally clear; wind very boisterous in the morning. The 11th, a general overcast; rain in the morning. The 12th and following day, generally clear. The 14th, overcast; rain in the morning.
Rain fallen, '61 of an inch.
CHARLES HENRY ADAMS.
WILSON & OGILVY, 57, Skinner Street, London.

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